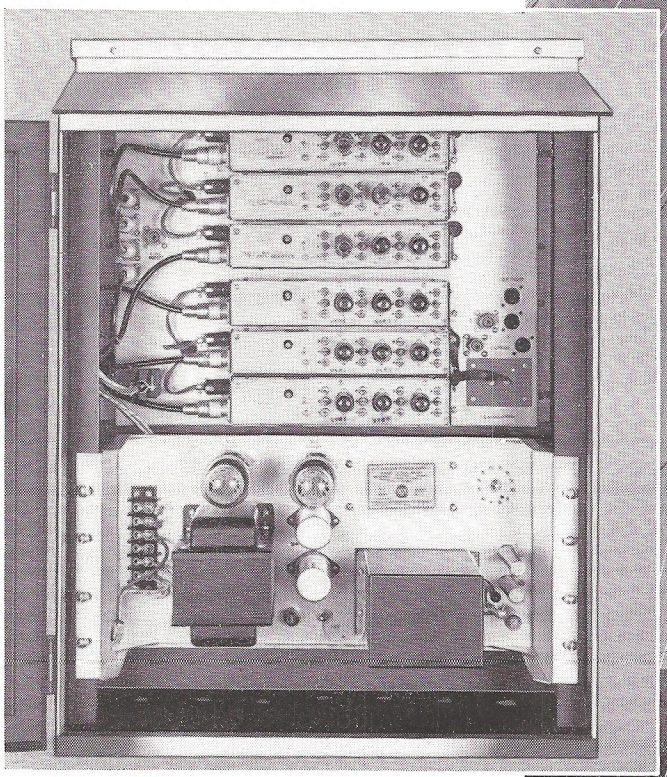
RCA COMMUNITY ANTENAPLEX®

TOWER AMPLIFIER SYSTEM, TYPE SX-8CT-3 (3-Channel)
TYPE SX-8CT-2 (2-Channel)
TYPE SX-8CT-1 (1-Channel)

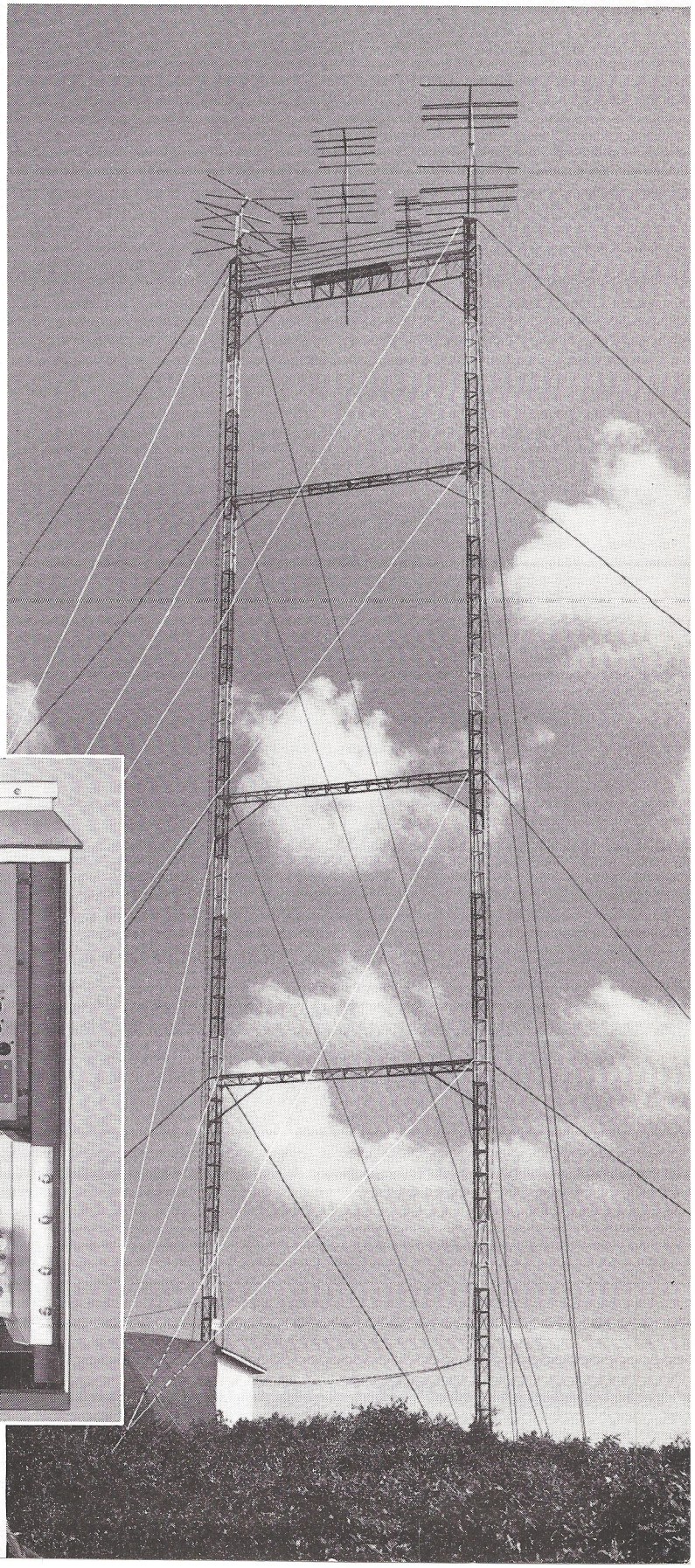
CATALOG **SA.6**

FEATURES

- Full six megacycle band width for highest fidelity
- High gain amplification for areas where TV strength is low
- One, two, or three channel operation
- Designed for low power consumption—for lower operating costs
- Used with line distribution amplifiers for complete community coverage
- Stability of amplifier tuning
- Weather-resistant ventilated cabinet for outdoor protection and minimum maintenance
- Program channels received at the tower are shifted by associated converter equipment to line amplifier channels 2, 4 or 6 for truer and more efficient transmission



RCA Tower Amplifier installed in a Weather-Resistant Cabinet at Foot of Tower.



RCA COMMUNITY "ANTENAPLEX"

APPLICATIONS

The Type SK-8CT Tower Amplifier System is used in a Community "Antenaplex" System for one, two or three channel service—a service capable of distributing, from a central point, an incoming TV signal, to many TV receivers within a community.

The Tower Amplifier System is used specifically for boosting the incoming TV signal to a level sufficient for carrying this signal to the next amplifying station.

Associated Converter equipment is used with the Tower Amplifier System for conversion of the incoming frequencies to the outgoing channels of the Tower Amplifier. This results in a truer signal at the TV sets in the homes along the distribution line, as well as a more economical coaxial cable signal transmission.

The Tower Amplifier equipment is the first link in the chain of a Community "Antenaplex" System that makes possible reception of TV by many communities where satisfactory TV reception was previously not practically obtainable.

DESCRIPTION

The Community "Antenaplex" Tower Amplifier, with its incorporated power supply is installed in a weather resistant ventilated cabinet.

One, two, or three channel operation is available. An input amplifier strip for each input channel received, and an output amplifier strip for each outgoing channel is supplied. A total of six amplifiers strips are used for three channel operation. The output amplifiers strips—for three channel operation—are tuned to channel 2, 4 and 6 when the system leaves the RCA factory. The input amplifier strip is tuned to any of the channels 2-13 that are received.

One output of 75 ohms and a test output are provided in the Tower Amplifier System.

After passing through the input amplifiers the incoming signals are carried to the output amplifiers, or converter equipment when required.

If signals in the high end of the spectrum are received at the tower location converter equipment is required to convert the signals to channels 2, 4 or 6.

The "Antenaplex" channelized design eliminates the need for compromise of the antenna signal.

All amplifiers are precision tuned before leaving the factory.

All r-f connections to the amplifiers are approved A/N plug and receptacle type.

The power supply uses two RCA 5R4-GY rectifiers in a conventional circuit. The B-plug voltage is adjustable to within 5% of nominal by means of a selective switch and associated resistors.

The weather resistant ventilated cabinet that houses the Tower Amplifier System protects this equipment from excessive operating temperatures and bad weather and makes for longer life and lower maintenance.

SPECIFICATIONS

Input ..... 75 ohm impedance

Output ..... One 75 ohm output and one test output

Frequency Response
(Including converters) ..... Within 3 db for 6 megacycle band width

Gain (Including converters and 6 db isolation pads between preamplifier and converter and between converter and output amplifier) ..... 60 db minimum
(Nominal line voltage, gain controls maximum)

Rated Power Output—Channels 2, 4, and 6 ..... 1.25 volts a-c across 75 ohms

Dimensions:
- Overall Height Including Brackets ..... 29 1/8"
- Width ..... 20"
- Depth Outside (Including 1 1/8" Eave and 1/2" Mounting Bracket) ..... 10 7/8"
- Depth Inside ..... 9 1/8"
- Mounting Dimension ..... 26 3/8" x 17"
- Total Weight Approximately ..... 85 lbs.

Tube Complement:
- a. Power Supply ..... 2 RCA 5R4-GY
- b. TV Amplifier Strips, Channels 2 to 6 ..... 3 RCA 6AK5 each
- c. TV Amplifier Strip, Channels 7 to 13 ..... 3 RCA 6AK5 and 1 6AN5

Fuses:
- Power Supply ..... 2 amperes type 3AGSlo-Blo

Power Required ..... 105/125 volts, 60 cycles a-c
(100-180 watts depending upon channels and number of channels)

ANTENAPLEX SALES
RADIO CORPORATION OF AMERICA
Engineering Products Department, Camden, N. J.

June 1952

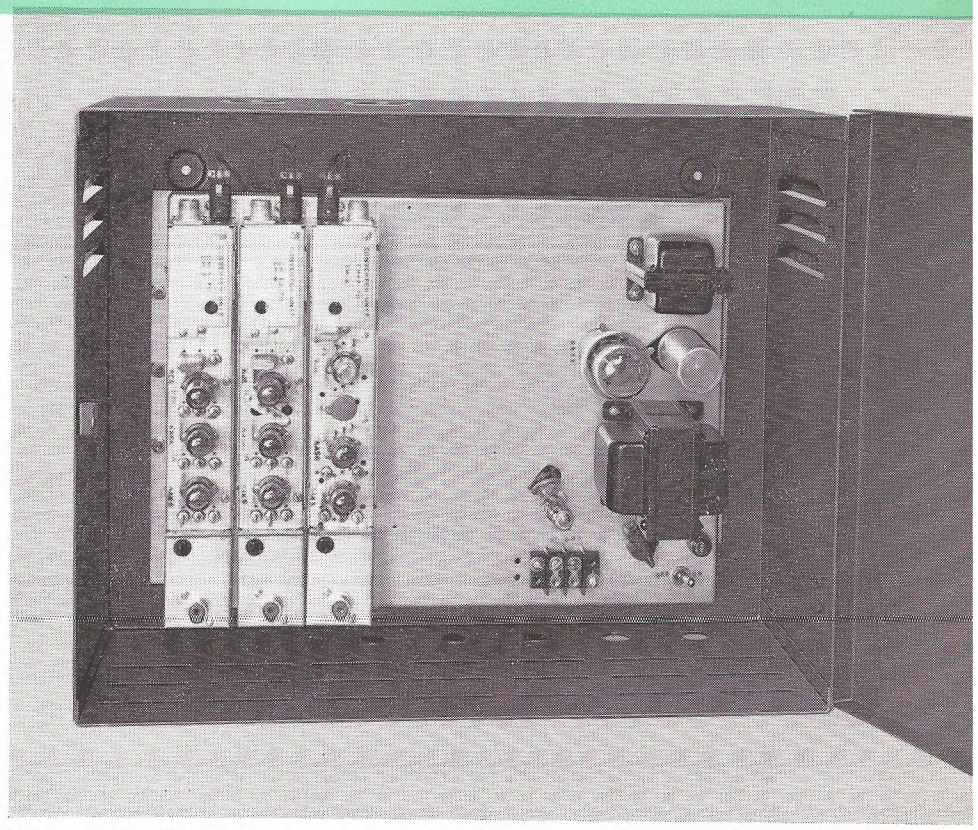
PRINTED IN U.S.A.

Community "ANTENAPLEX" Converter System

CATALOG SA.68

FEATURES

- Engineered and custom-built for each installation
- Highest fidelity over full six megacycle band width
- One, two, or three channel conversion
- Harmonics and spurious radiations amply suppressed
- Channel stability assured by RCA precision ground individual crystals
- All components operate well below allowable working limits, thus assuring long life of equipment



APPLICATIONS

The Converter equipment is used to convert the VHF Television channel frequencies received at the tower location to channels 2, 4, or 6 which are then transmitted over the system to individual subscribers. Channels 2, 4 and 6 are used for transmitting throughout the system because the cable losses are considerably less than those for transmitting channels 7 to 13.

The TV channels receivable in the various communities are different. Consequently, converter and tower equipment must be custom-built for each system installation.

DESCRIPTION

The Community "Antenaplex" Converter, with its incorporated power supply, is installed in a cabinet for wall mounting near the tower amplifier.

One or two converter strips are required for each received channel that is to be converted.

The Antenaplex System Converter is normally used to convert all VHF television channels to be received above channel 6 to channels 2, 4 and 6 for lower cable transmission losses. However, received channels within the bands 2, 4 and 6 are often converted, depending also on the circumstances under which the channel frequencies are received. It must be remembered, therefore that each Community Channel Conversion is a special case and is custom engineered to obtain the best results. Consequently, it is recommended the converter be used only with RCA amplifier equipment which have been designed as companion units. A fixed crystal control is used in each converter strip for accurately determining the output frequency.

June 1952

PRINTED IN U.S.A.

Community "Antenaplex" Converter System

The Converter System receives its incoming signal from the appropriate preamplifiers of the Type SX-8CT Tower Amplifier and the outgoing signal from the Converter System is fed into the appropriate output strip amplifiers of the Type SX-8CT Tower Amplifier. Because the Converter System is electrically connected between two parts of the Tower Amplifier, the Tower Amplifier and Converter are usually physically located adjacent to one another.

Input and output connections are A/N type. Plug and receptacle provide minimum installation and service time. Power supply uses one RCA 5U4-G rectifier in a conventional circuit. The B+ voltage is adjustable for maximum converter tube life.

SPECIFICATIONS

Input.....Source impedance 75 ohm resistive

Output.....Load impedance 75 ohm resistive

Frequency Response.....Within 3 db for 6 megacycle bandwidth

Gain.....6 db minimum to 18 db maximum varying from unit to unit usually dependant on oscillator output

Power Output.....0.5 volts a-c maximum each converter channel

Dimensions:

- Overall Height .....16½"
- Overall Width .....21½"
- Depth .....8¾"
- Weight Approximately.....40 lbs.
- Mounting Dimensions Flush.....12" x 16"

Tube Complement:

- a. Power Supply Unit .....1 RCA 5U4G
- b. Low Channel Converters.....1 RCA 6AS6
  1 RCA 6AK5
  1 RCA 6C4
- c. High to Low Channel Converters or Low to High Channel Converters.....1 RCA 6AS6
  1 RCA 6AK5
  1 RCA 6J6

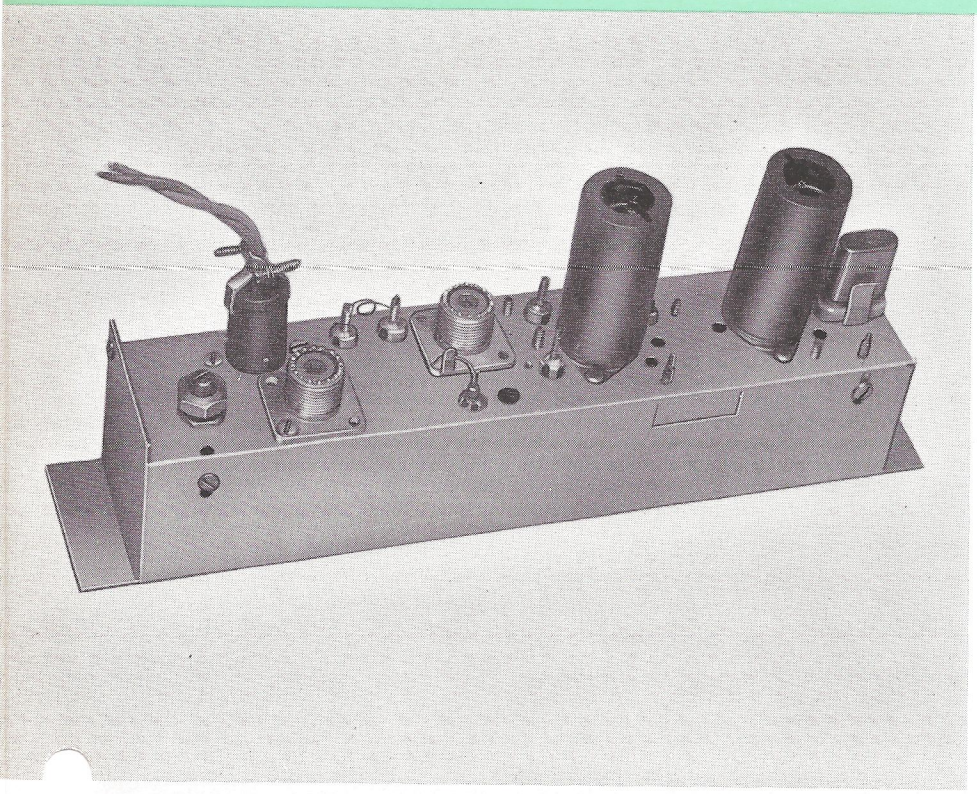
Fuses—Power Supply.....1 ½ ampere type 3AG

ANTENAPLEX SALES
RADIO CORPORATION OF AMERICA
Engineering Products Department, Camden, N. J.

UHF TO VHF CONVERTER

MASTER ITEM - 5145 AND 5155

CATALOG **SA.67**



FEATURES

- **Converts a UHF to a VHF channel for Antenaplex distribution**
- **Stable, crystal controlled conversion**
- **Has one stage of VHF to increase level and reduce interference**
- **Designed for continuous operation and ease of installation**
- **Excellent response over 6 megacycle bandwidth**
- **Uses only two tubes for minimum maintenance**

DESCRIPTION

The mixer type frequency converter is capable of converting a UHF television channel to a VHF television channel. The local oscillator signal is obtained by frequency multiplication of a crystal controlled oscillator. One stage of VHF amplification is provided to function as an amplifier and buffer.

Two types of multiplier systems are used, thus permitting greatest number of UHF stations to be converted to any VHF channel without harmonic interference.
An external power supply is required. The converter is designed for ease of installation and maintenance.

APPLICATION

These crystal controlled converters will efficiently convert a UHF channel to a VHF channel for distribution over an RCA Antenaplex system. In this way one converter will eliminate the need of purchasing a separate converter or UHF tuner for each TV receiver connected to the system. The output of the converter is connected to the input of the appropriate VHF channel strip for combining with the outputs of the other channel amplifiers.

These converters may also be used in conjunction with broadband distribution amplifiers.

SPECIFICATIONS

Input:	
Source Impedance	75 ohms
Output:	
Load Impedance	75 ohms
Conversion Loss	Nominal 10 db
Frequency Response	Essentially flat
Fuses	None except on power supply
Power Required	0.8 amp. at 6.3 volts 60 cps 37 ma at 135 volts d-c
Dimensions:	
Overall Height, including tubes	4"
Overall Length	10"
Overall Width	2"
Mounting Dimensions	9 17/32" and 2 1/16" to adjacent mounting

Tube Complement

2 RCA 6BQ7A

1 IN82 Crystal

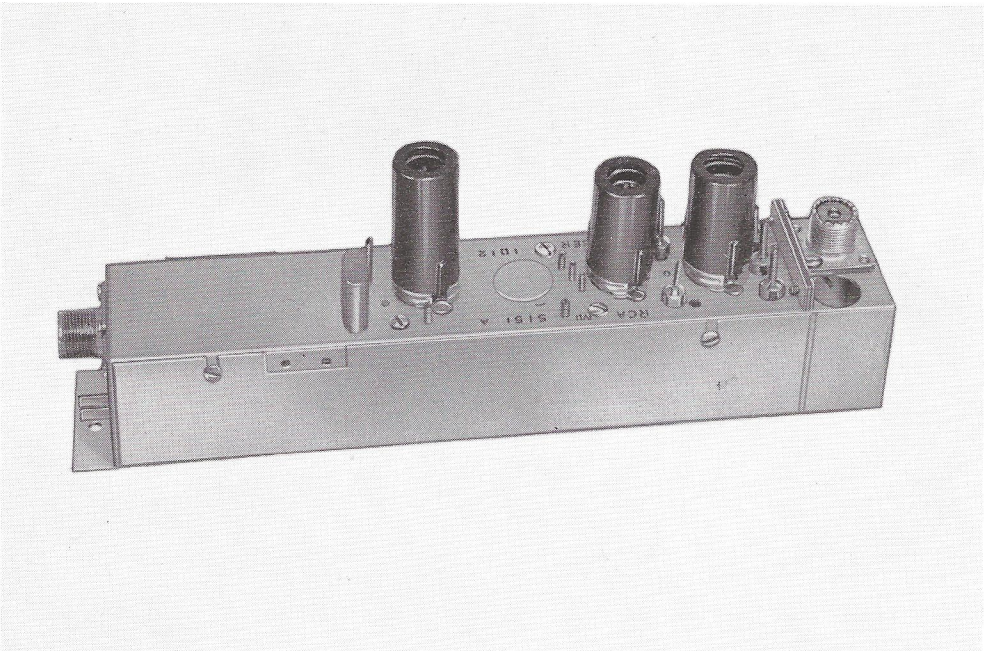
May 1954

RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
Camden, N. J.

PRINTED IN U. S. A.

"ANTENAPLEX" CONVERTERS

CATALOG SA.5005



VHF TO VHF CONVERTERS, MI-5151-A, MI-5152-A, MI-5153-A

FEATURES

- **Convert: High VHF to Low VHF (MI-5151-A)**
  Low VHF to High VHF (MI-5152-A)
  Low VHF to Low VHF (MI-5153-A)
- **Permits most effective utilization of VHF frequencies for signal distribution**
- **Crystal controlled**
- **Full 6 megacycle bandwidth**
- **Designed for ease of installation**
- **Built for continuous operation**
- **Plug in—simple to maintain**
- **Tubes conservatively operated (for maximum life)**

APPLICATION

These crystal controlled converters are designed to convert efficiently VHF television signals from the channels on which they are received to other channels in the VHF band. These conversions permit the most efficient utilization of "Antenaplex" distribution facilities.

DESCRIPTION

RCA "Antenaplex" Converters, MI-5151-A, 5152-A, and 5153-A function as follows: By means of Converter Unit, MI-5151-A, high band channels (7-13) may be converted to the low band (2-6). Converter Unit, MI-5152-A, permits shifting a channel from the low band into the high band. Converter, MI-5153-A, permits channel shifting (where feasible) within the low band.

In the MI-5151-A and the MI-5152-A, the local oscillator signal is obtained by multiplication of a crystal controlled oscillator. In the MI-5153-A the crystal fundamental is used. All three converters have a buffer stage immediately preceding the VHF output.

The output of the converter is connected to the input of the appropriate VHF channel amplifier strip for combining with the outputs of the other channel amplifiers. The converters may also be used in conjunction with broadband distribution amplifiers.

An external power supply is required.

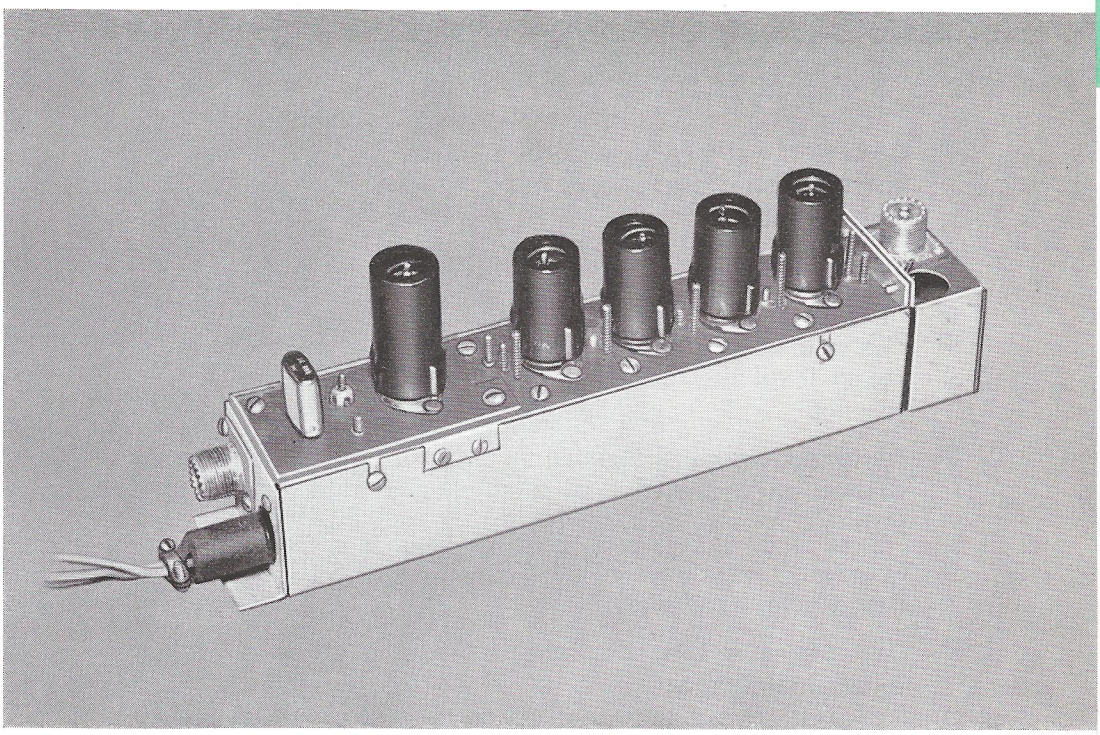
MASTER ITEMS MI-5151-A, 5152-A, 5153-A

SPECIFICATIONS

	MI-5151-A (HIGH-LOW)	MI-5152-A (LOW-HIGH)	MI-5153-A (LOW-LOW)
Power Required (External Source)	6.3 Volts A-C, 0.8 Amp.	6.3 Volts A-C, 0.8 Amp.	6.3 Volts A-C, 0.5 Amp.
	135 Volts D-C, 45 Ma	135 Volts D-C, 45 Ma	135 Volts D-C, 35 Ma
Input:			
Source Impedance	75 Ohms, Resistive	75 Ohms, Resistive	75 Ohms, Resistive
Output:			
Load Impedance	75 Ohms, Resistive	75 Ohms, Resistive	75 Ohms, Resistive
Frequency Response	±1½ db for 6 MC Bandwidth	±1½ db for 6 MC Bandwidth	±1½ db for 6 MC Bandwidth
Gain	−6 to +18 db Dependent on Input and Output Frequencies		
Level:			
Input	5 MV (Min. Recommended)—70 MV (Max.)	5 MV (Min. Recommended)—70 MV (Max.)	5 MV (Min. Recommended)—70 MV (Max.)
Output	0.5 V (Max.)	0.5 V (Max.)	0.5 V (Max.)
Tube Complement	One—RCA 6AS6	One—RCA 6AS6	One—RCA 6AS6
	One—RCA 6AK5	One—RCA 6AK5	One—RCA 6AK5
	One—RCA 6J6	One—RCA 6J6	One—RCA 6C4
Dimensions:			
Overall Height	3¾"	3¾"	3¾"
Overall Length	10$^{9}/_{16}$"	10$^{9}/_{16}$"	10$^{9}/_{16}$"
Width	2"	2"	2"
Weight	1½ lbs. (Approx.)	1½ lbs. (Approx.)	1½ lbs. (Approx.)
Crystal Frequency	As Required (Specify Channels)	As Required (Specify Channels)	As Required (Specify Channels)

X'' CONVERTERS

HIGH VHF TO HIGH VHF CONVERTER MI-5175



FEATURES

- **Stable—crystal controlled conversion**
- **Designed for continuous operation and ease of installation**
- **Has one stage of amplification ahead of mixer**
- **Excellent response over 6 mc bandwidth**

DESCRIPTION

This unit is designed to convert any channel in the High VHF band (7-13) to any other channel in the same band except the channel adjacent to the incoming signal. The local oscillator signal is obtained from the fundamental of a crystal controlled oscillator. The unit has one stage of amplification ahead of the mixer (6AS6), three tuned circuits and two gain stages following the mixer. An external power supply is required.

APPLICATION

The MI-5175 convertor makes possible conversions within the VHF high band, eliminating the need for double conversions. This enables the use of a lower channel for distribution and allows the advantage of lower cable loss at the lower frequencies.

SPECIFICATIONS

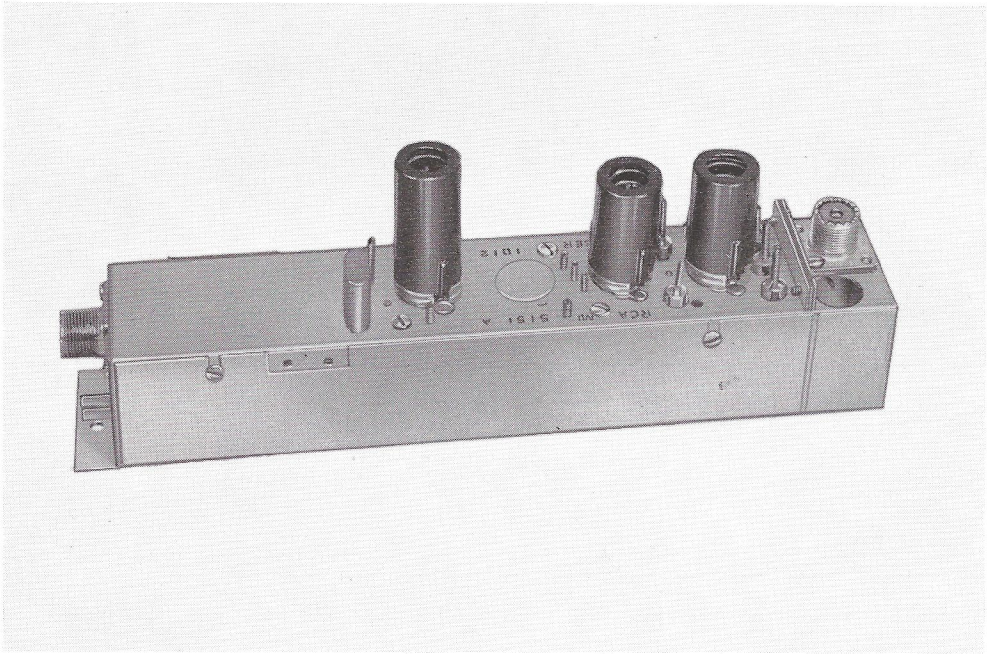
Input:	
Source Impedance	75 ohms
Output:	
Load Impedance	75 ohms
Conversion Gain	20 db
Level:	
Input	Minimum 0.5 mv; recommended 5.0 mv; maximum 5.0 mv
Output	0.5 v. (maximum)
Frequency Response	Essentially flat
Power Required:	
Filament Current	6.3 volts a-c, 1.275 amp.
Plate Current	135 volts d-c, 85 Ma
Fuse	1/8 amp.
Dimensions:	
Overall Height	3¾"
Overall Length	10 9/16"
Width	2"
Weight	1½ lbs. (approx.)

Tube Complement

1—6C4 Oscillator
1—6AS6 Mixer
3—5654 Amplifier
1—MI-5160 Series Crystal (specify channels)

"ANTENAPLEX" CONVERTERS

CATALOG SA.5005



VHF TO VHF CONVERTERS, MI-5151-A, MI-5152-A, MI-5153-A

FEATURES

- **Convert: High VHF to Low VHF (MI-5151-A)**
  Low VHF to High VHF (MI-5152-A)
  Low VHF to Low VHF (MI-5153-A)
- **Permits most effective utilization of VHF frequencies for signal distribution**
- **Crystal controlled**
- **Full 6 megacycle bandwidth**
- **Designed for ease of installation**
- **Built for continuous operation**
- **Plug in—simple to maintain**
- **Tubes conservatively operated (for maximum life)**

APPLICATION

These crystal controlled converters are designed to convert efficiently VHF television signals from the channels on which they are received to other channels in the VHF band. These conversions permit the most efficient utilization of "Antenaplex" distribution facilities.

DESCRIPTION

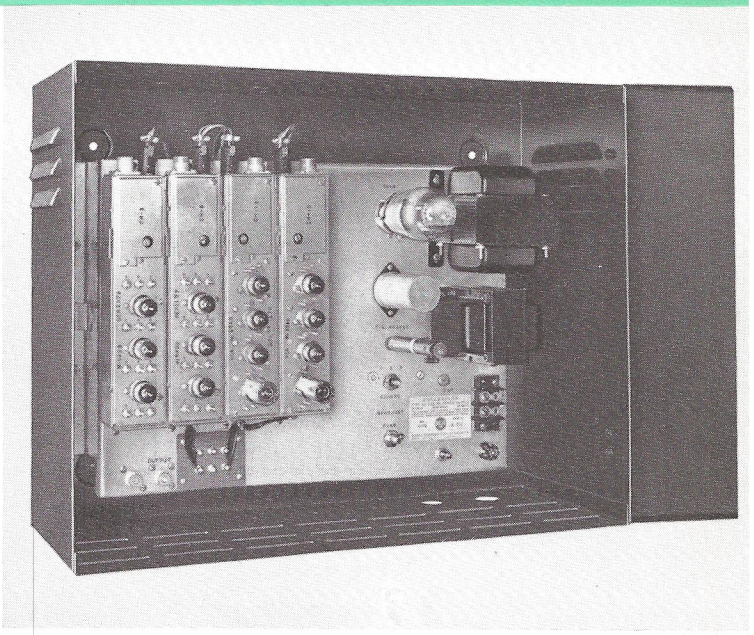
RCA "Antenaplex" Converters, MI-5151-A, 5152-A, and 5153-A function as follows: By means of Converter Unit, MI-5151-A, high band channels (7-13) may be converted to the low band (2-6). Converter Unit, MI-5152-A, permits shifting a channel from the low band into the high band. Converter, MI-5153-A, permits channel shifting (where feasible) within the low band.

"ANTENAPLEX" AMPLIFIER

CUSTOM DELUXE, TYPE SX-3B

CATALOG SA.1000

FOR COLOR AND BLACK AND WHITE RECEPTION



"Antenaplex" Amplifier, Type SX-3B.

FEATURES

- **Full six megacycle band width for highest fidelity**
- **High gain amplifiers; can be used in areas where TV strength is low**
- **No amplifier neutralization required**
- **Will supply up to 350 television set outlets in a typical system**
- **One to four-channel operation**
- **Minimum reaction between channels**
- **All tubes are located at a central point . . . a convenience when servicing and an important contribution to lower maintenance cost**
- **Designed for low power consumption—for lower operating costs**
- **Can be used in multiples for greater outlet coverage**

APPLICATIONS

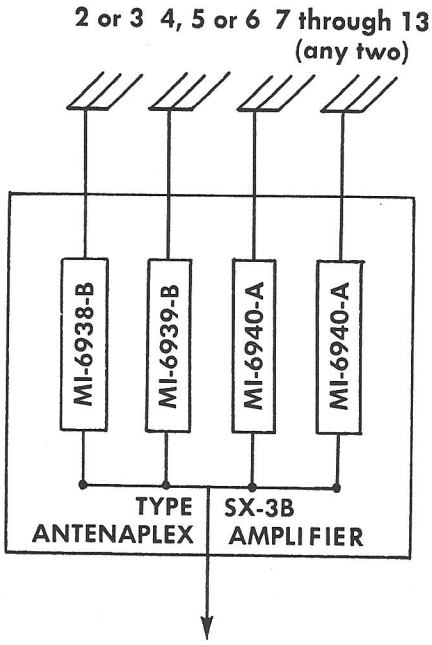
This RCA Custom Deluxe Amplifier, SX-3B, is next to the largest and most powerful of RCA's "Antenaplex" amplifiers. It supplies a signal to a large number of television receivers from a single antenna installation where no more than four-channel reception is required. The "Antenaplex" Amplifier, Custom Deluxe, is ideally suited for use in apartment houses, housing projects, hotels, motels, hospitals, dormitories, schools, department stores, and to supply communities which are remotely located from television stations and where TV signal strength is low.

DESCRIPTION

The "Antenaplex" amplifier and power supply are mounted in a wall type cabinet rack. The TV signal amplifiers, one for each of the four channels, amplify the antenna signal sufficiently to provide a high level signal for distribution over a 75-ohm distribution system.

"Antenaplex" single channel operation eliminates the need for compromise of the antenna signal. It also permits the amplifier to be designed for maximum gain and maximum signal power output. Thus the "Antenaplex" amplifier requires fewer tubes and power consumption is at a minimum thereby reducing maintenance costs. Single channel operation also makes possible the proper orientation of each

"ANTENAPLEX" AMPLIFIER . . . CUSTOM DELUXE . . . TYPE SX-3B



Block diagram—"Antenaplex".

antenna—a method of eliminating ghosts, normally prevalent when a single antenna is used for all TV channels.

Input and power connections to the amplifiers are plug and receptacle type, providing minimum installation and service time.

Three basic amplifiers are used to cover the assigned frequencies currently allocated for VHF television broadcasting; one for channels 2 or 3; one for channels 4, 5 or 6; and one for channels 7 through 13. One amplifier of the required type is used for each channel. The power supply uses one RCA 5U4G rectifier in a conventional circuit. The B plus voltage can be adjusted by means of a coarse and a fine voltage control. This is essential to obtain maximum amplifier tube life.

TV amplifier chassis and power supply is usually mounted in cabinet MI-5172 but may be used without modification for rack mounting.

SPECIFICATIONS

Source Impedance.....75 ohms

Load Impedance.....75 ohms

Frequency Response.....Within 3 db for 6 megacycle bandwidth

Gain (all 4 channels connected):
- Minimum Average Gain.....Low bands 37 db
- Minimum Average Gain.....High bands 40 db

Rated Power Output:
- * Channels 2 through 6.....1.25 volts across 75 ohms
- * Channels 7 through 13.....2.0 volts across 75 ohms

Power Required.....135 watts, 50-60 cycle, 112 to 122 volts a-c (for 4-channel unit)

Dimensions:
- Overall Height.....21¼"
- Width.....20¾"
- Depth.....8"
- Total Weight.....Approx. 50 lbs.

Tube Complement:
- TV Amplifier, MI-6938-B and 6939-B.....3 RCA 6AK5
- TV Amplifier, MI-6940-A.....3 RCA 5654, 1 6AN5
- Power Supply, MI-5170.....1 RCA 5U4G

Accessories

Antenna**, antenna coils, outlets, connectors, distribution transformers, cables, etc., as determined by individual requirements of each installation. See "Antenaplex" catalog sheets covering these items.

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* Recommended operating level for color distribution not in excess of 0.5 volt and 1.0 volt for the low and high band channels respectively.

** The type antenna best suited for specific installation is determined at the time of engineering survey.

RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
Camden, N. J.
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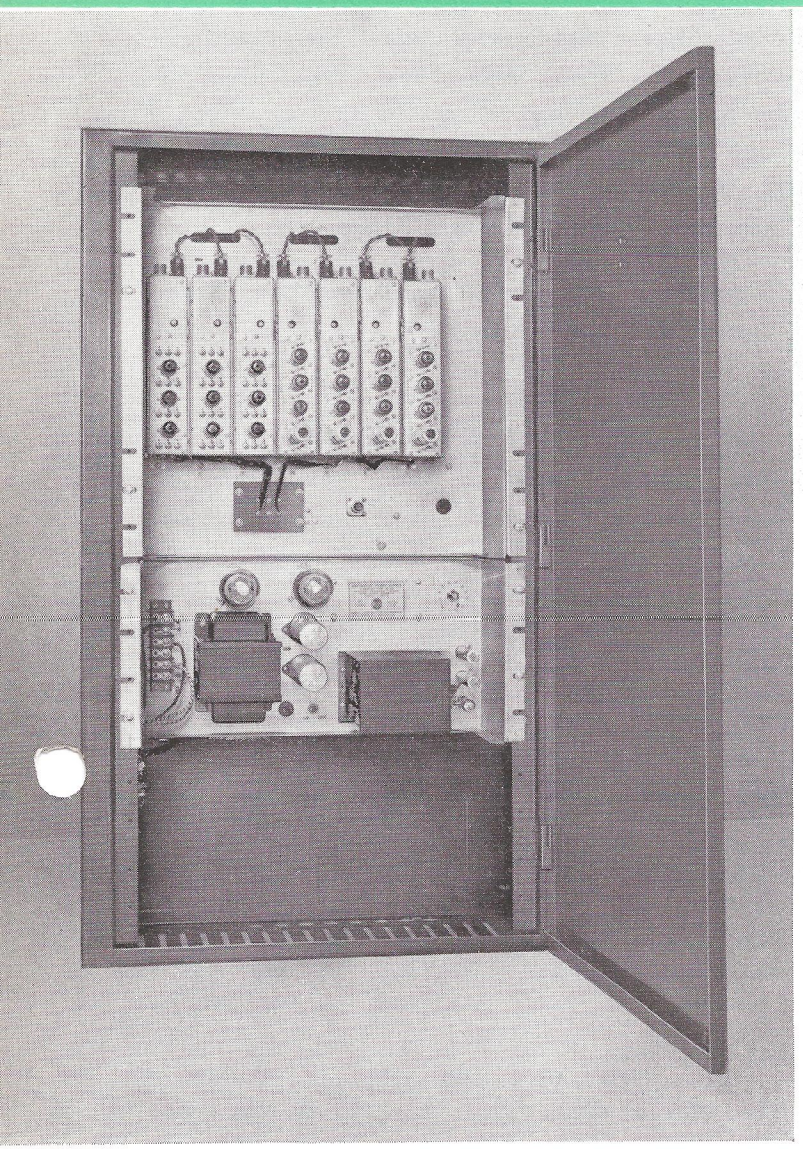
"ANTENAPLEX" AMPLIFIER

CUSTOM DE LUXE, TYPE SX-8B

CATALOG SA.2



FOR COLOR AND BLACK AND WHITE RECEPTION

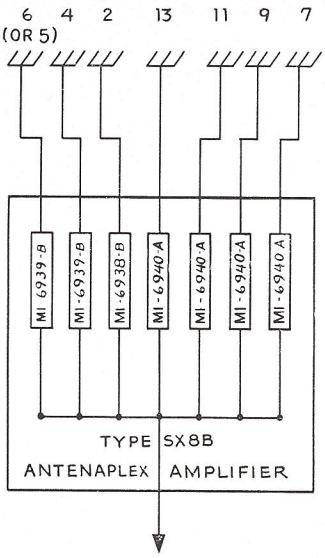
APPLICATIONS

This RCA Custom Deluxe Amplifier, SX-8B, is the largest and most powerful of RCA's "Antenaplex" amplifiers. It supplies a signal to a large number of television receivers from a single antenna installation. The "Antenaplex" Amplifier, Custom Deluxe, is ideally suited for use in apartment houses, housing projects, hotels, motels, hospitals, dormitories, schools, department stores, television factory test setups, and to supply communities which are remotely located from television stations and where TV signal strength is low.

FEATURES

- Full six megacycle band width for highest fidelity
- High gain amplifiers; can be used in areas where TV strength is low
- No amplifier neutralization required
- Will supply up to 350 television set outlets in a typical system
- Recommended for use in systems where future expansion is anticipated
- One to seven-channel operation
- Minimum reaction between channels
- All tubes are located at a central point . . . a convenience when servicing and an important contribution to lower maintenance cost
- Designed for low power consumption—for lower operating costs
- Can be used in multiples for greater outlet coverage

"ANTENAPLEX" AMPLIFIER . . . CUSTOM DELUXE . . . TYPE SX-8B



Block diagram, Antenaplex.

DESCRIPTION

The "Antenaplex" amplifier and power supply are mounted in a wall type cabinet rack. The TV signal amplifiers, one for each channel, amplify the antenna signal sufficiently to provide a high level signal for distribution over a 75-ohm distribution system.

"Antenaplex" single channel operation eliminates the need for compromise of the antenna signal. It also permits the amplifier to be designed for maximum gain and maximum signal power output. Thus the "Antenaplex" amplifier requires fewer tubes and power consumption is at a minimum thereby reducing maintenance costs. Single channel operation also makes possible the proper orientation of each antenna—a method of eliminating ghosts, normally prevalent when a single antenna is used for all TV channels.

Input and power connections to the amplifiers are plug and receptacle type, providing minimum installation and service time.

Three basic amplifiers are used to cover the assigned frequencies currently allocated for VHF television broadcasting; one for channels 2 or 3; one for channels 4, 5 or 6; and one for channels 7 through 13. One amplifier of the required type is used for each channel. The power supply uses two RCA 5R4-GY rectifiers in a conventional circuit. The B plus voltage can be adjusted within 5 percent of nominal by means of a selector switch. This is essential to obtain maximum amplifier tube life. Input and output connections are plug and receptacle type.

TV amplifier chassis and power supply may be used without modification for rack mounting.

SPECIFICATIONS

Source Impedance.....75 ohms

Load Impedance.....75 ohms

Frequency Response.....Within 3 db for 6 megacycle bandwidth

Gain (all 7 channels connected)

- Minimum Average Gain.....Low bands 37 db
- Minimum Average Gain.....High bands 40 db

Rated Power Output:

- * Channels 2 through 6.....1.25 volts across 75 ohms
- * Channels 7 through 13.....2.0 volts across 75 ohms

Power Required.....180 watts, 50-60 cycle, 105-125 volts a-c (for 7-channel unit)

Dimensions:

- Overall Height.....44" (including brackets)
- Width .....20¼"
- Depth .....10"
- Mounting Dimensions.....40⅛" x 16¾"
- Total Weight.....Approx. 125 lbs.

Tube Complement:

- TV Amplifier, MI-6938-B and 6939-B.....3 RCA 6AK5
- TV Amplifier, MI-6940-A.....3 RCA 5654, 1 6AN5
- Power Supply, MI-6936.....2 RCA 5R4GY
- TV Amplifier Chassis, Stock No.....MI-6935

Accessories

Antenna**, antenna coils, outlets, connectors, distribution transformers, cables, etc., as determined by individual requirements of each installation. See "Antenaplex" catalog sheets covering these items.

* Recommended operating level for color distribution not in excess of 0.5 volt and 1.0 volt for the low and high band channels respectively.

** The type antenna best suited for specific installation is determined at the time of engineering survey.

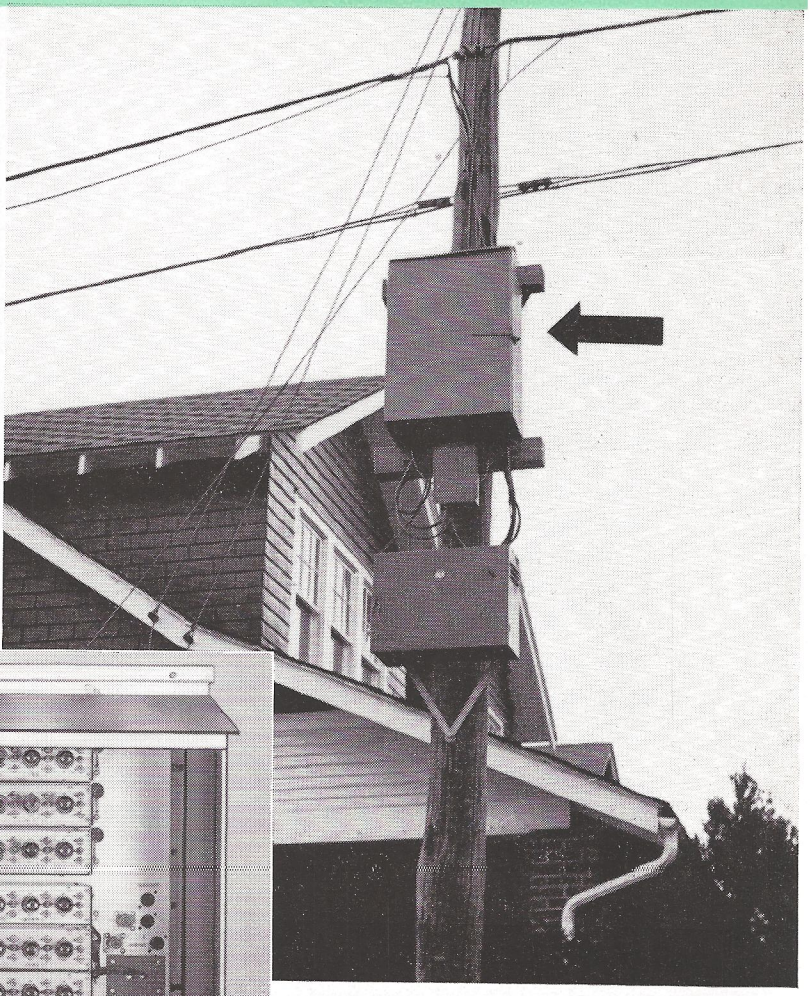
RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
Camden, N. J.
PRINTED IN U.S.A.

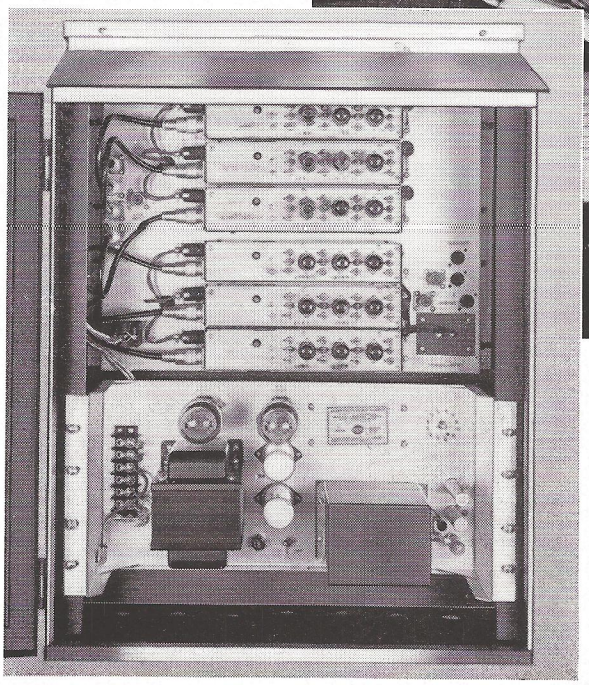
COMMUNITY "ANTENAPLEX" LINE AMPLIFIER SYSTEM

CATALOG SA.65

FEATURES

- Full six megacycle band width for highest fidelity and clearer pictures
- High gain amplification permits longer transmission lines
- One, two or three channel operation
- Designed for lower power consumption (lower operating cost)
- Boosts signal along line to required level to drive additional amplifiers and feed lateral lines
- Harmonics and spurious radiations amply suppressed
- Stability of amplifier tuning
- Sturdy, heavy-gauge, galvanized weather-resistant cabinet





APPLICATIONS

The "Antenaplex" Line Amplifier is a major link in the complete chain of a Community "Antenaplex" System which makes available to many communities TV reception, where adequate TV reception was previously not possible. The Line Amplifier, like the SX-8CT Tower Amplifier, may be used for 1, 2 or 3 channel service.

The TV signal is greatly attenuated when transmitted a long distance along coaxial transmission lines. Further transmission or distribution requires the signals to be re-amplified at appropriate points along the way. The Line Amplifier performs this function by boosting the signal to its original level without apparent degrading of the signal quality.

Line Amplifiers are designed with one (1) output. If additional outputs are desired for lateral distribution, distributing networks may be added.

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TV "ANTENAPLEX" AMPLIFIERS

CATALOG SA.448

FEATURES

- Full six megacycle band width for highest fidelity and clearest pictures
- Three basic types cover the assigned (VHF) frequencies currently used for television broadcasting (additional UHF to VHF converters required for UHF station reception)
- Used in RCA Community "Antenaplex" systems and in Intra-Building "Antenaplex" systems
- Mount on standard RCA "Antenaplex" chassis
- One to seven channel operation—one amplifier for each channel
- No amplifier neutralization required
- Minimum reaction between channels
- Designed for low power consumption—low operating costs
- Recommended for use in systems where future expansion is anticipated

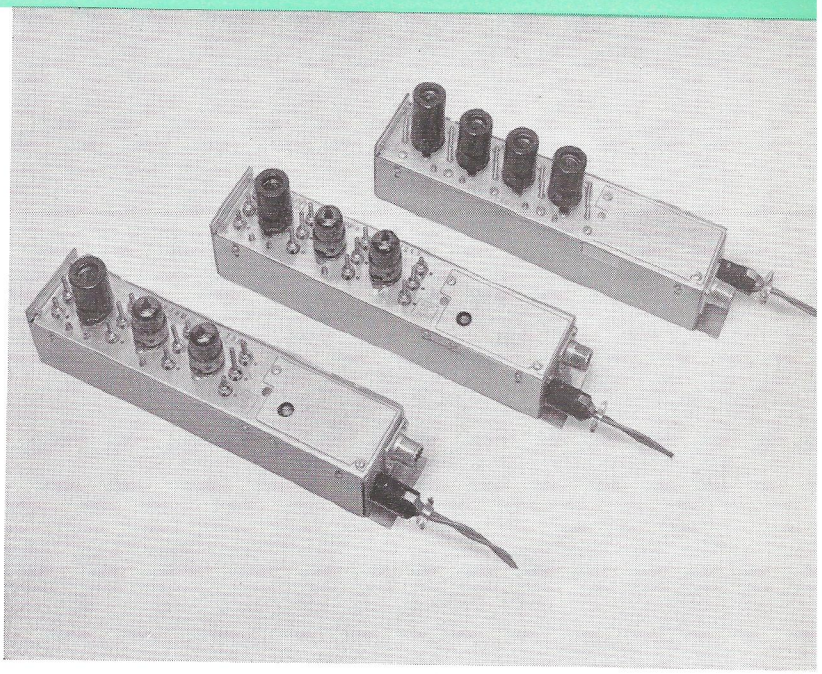
APPLICATIONS

These three strip-type r-f amplifiers, MI-6938-B, MI-6939-B and MI-6940-A, are the heart of the RCA Community "Antenaplex" and the RCA multi-unit building "Antenaplex" systems, where they are used in tower amplifier systems, intra-building "Antenaplex" amplifiers, line amplifiers, and in special applications, such as the output amplifier in cascaded pairs.

DESCRIPTION

MI-6938-B (channels 2 and 3) and MI-6939-B (channels 4, 5, and 6) are three-stage, permeability tuned, transformer-coupled, r-f amplifiers designed for 75-ohm and 300-ohm source or load impedance. MI-6940-A (channels 7 through 13) is a four-stage amplifier for increased gain at the higher frequencies.

Each amplifier, except the MI-6940-A, contains a screw driver adjustment gain control which varies voltage to the plate and screen of the first two stages, thus controlling the gain of the amplifier. Each of the three amplifiers contains receptacles for antenna cable and power plugs. All amplifiers are precision tuned before leaving the factory.



TV "Antenaplex" Amplifiers, left to right, MI-6938-B, MI-6939-B, MI-6940-A.

Up to seven of these TV "Antenaplex" amplifiers may be mounted on the RCA TV Amplifier Chassis, MI-6935, which may be used without modification for either cabinet or rack mounting.

RCA "Antenaplex" Power Supply MI-6936 is designed for use with these amplifier units.

SPECIFICATIONS

Source Impedance.....75 and 300 ohms

Load Impedance.....75 and 300 ohms

Frequency Response.....Within 3 db for 6 megacycles bandwidth

Gain (all 7 channels connected):

Minimum Average Gain.....Low bands 37 db

Minimum Average Gain.....High bands 40 db

Rated Power Output:

*Channels 2 through 6.....1.25 volts across 75 ohms

*Channels 7 through 13.....2.0 volts across 75 ohms

Power Required.....180 watts, 50-60 cycles, 105-125 volts a-c (for 7-channel operation)

Tube Complement

TV Amplifier, MI-6938-B and MI-6939-B.....3 RCA AK5

TV Amplifier, MI-6940-A.....3 RCA 5654, 1 6AN5

———

* Recommended operating level for color distribution not in excess of 0.5 volt and 1.0 volt for the low and high band channels respectively.

562SA

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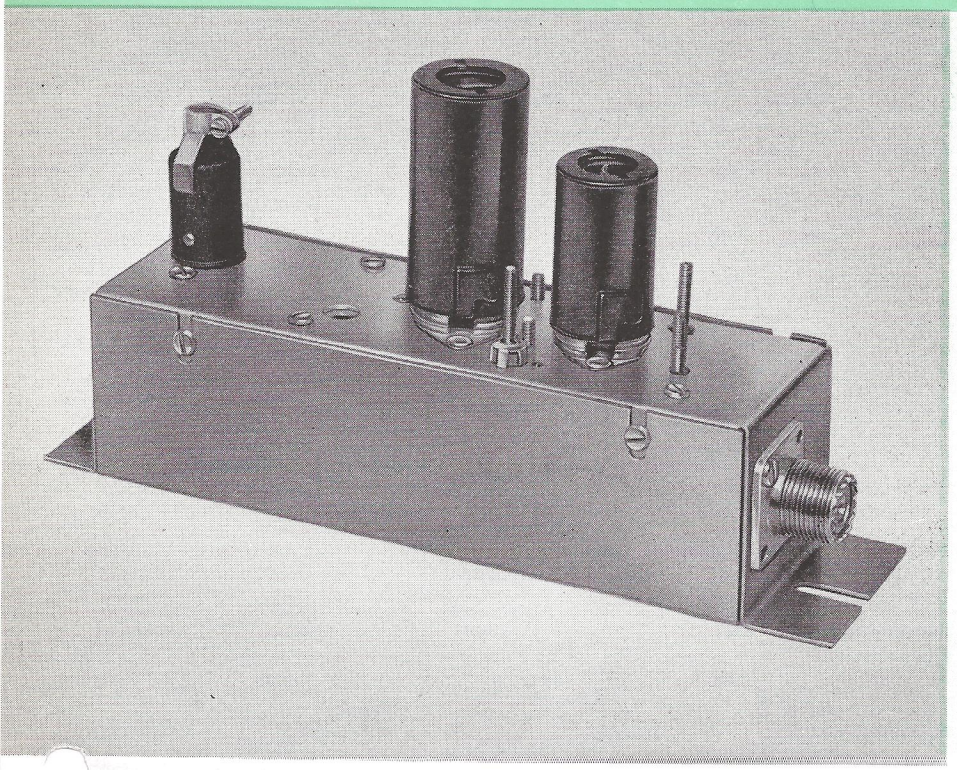
LOW NOISE PREAMPLIFIERS

CATALOG SA.43



FEATURES

- Will amplify weak VHF signals of 50 to 100 microvolts with minimum amount of "snow"
- Four separately engineered units to most efficiently cover each channel from 2 through 13
- Specially developed driven grounded grid circuit for lowest noise level to produce best picture quality for signal available
- Conservatively designed for maximum tube life and lowest maintenance with continuous 24 hour operation
- Six megacycle band pass for minimum variation in response due to tube aging, etc.
- Utilizes "long-life" RCA type 5654 output tube.

DESCRIPTION

The unit incorporates two tubes with the input tube utilizing a driven grounded grid circuit and the long life output tube conventionally connected. Four units covering the two bands with two units in each band are featured. Each unit is tunable to any channel in its range, thus providing optimum gain, response, and noise factor regardless of the channel. Input circuits are designed to operate from 300 ohm source for optimum characteristics also. Plug-in arrangement for input, output and power is incorporated for minimum installation and service. A small chassis is used for convenience of mounting either at the antenna or near the main amplifier.

APPLICATION

Pre-amplifiers are recommended for use at the antenna where a low noise unit is desired to amplify weak signals for optimum picture quality. The units provide the lowest noise figure consistent with maximum tube life. A long life tube (5654) has been utilized as the second stage, where it will not add to the overall noise factor, to increase life since many applications require tower mounting, a comparative inaccessible location. Generally acceptable pictures can be obtained with levels in the order of 50 to 100 microvolts depending upon interferences and channels.

For the low band channels, good picture quality can be obtained with lower levels than for the high band channels. As a preamplifier for a standard amplifier it provides the additional gain necessary in low signal areas.

SPECIFICATIONS

Available as:
- MI-5176 ..... Channels 2- 4
- MI-5177 ..... Channels 5- 6
- MI-5178 ..... Channels 7-10
- MI-5179 ..... Channels 11-13

Input:
- Source Impedance ..... 300 ohms balanced
- Connector ..... 3 pin (Mating plug supplied)

Output:
- Load Impedance ..... 75 ohms unbalanced
- Connector ..... Type S.O. 239

Noise Factor ..... Lowest value consistent with optimum tube life. Noise factor of units will normally be less than 5 db on Channels 2 through 6 and 7 db on Channels 7 through 13.

Frequency Response ..... ±1 db max. variation for 6 megacycle bandwidth

Gain (Nominal):
- Channels 2-6 ..... 25 db
- Channels 7-13 ..... 20 db

Tube Complement ..... 1 RCA 6BQ7-A 1 RCA 5654

Dimensions:
- Overall Length ..... 7½"
- Overall Width ..... 2"
- Height, Including Tubes ..... 4"
- Mounting Dimensions ..... 7⅛"

Power Required ..... .575 amp. at 6.3 volts a-c
35 ma at 125 volts d-c

Power source may be from any RCA Antenaplex power supply where total power consumption will not exceed power supply rating.

May 1954

RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
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BROADBAND AMPLIFIER

MASTER ITEM-5185

CATALOG **SA .42**

FEATURES

- Flat response over entire VHF spectrum provides uniform amplification of sound and picture with no loss of detail
- Low noise factor provides excellent fringe area operation
- Reproduces color signals
- RCA engineered for continuous operation with minimum maintenance
- Underwriters' Labs listed
- Ideal for use with TV Camera and RCA Monitran for closed circuit TV operation
- May be cascaded for additional gain in fringe areas—single amplifier sufficient in most areas
- Designed to serve up to 50 outlets in small hotels, apartment buildings, showrooms, and similar applications
- 75 ohm input for maximum shielding
- Easily adapted for 300 ohm input—easy to install
- Separate low and high band amplifier strips

APPLICATION

Engineered for use in "Antenaplex" distribution systems, this broadband amplifier provides medium power output, medium gain, and optimum response characteristics for VHF Channels 2 through 13. It is specifically designed for efficient, economical operation in small hotels, motels, apartment buildings, dealer showrooms, department stores, office buildings, garden type multiple dwelling units, and similar installations.

DESCRIPTION

The MI-5185 broadband amplifier consists of an MI-5180 low band amplifier, an MI-5181 high band amplifier, mounted on a power supply, enclosed by a cover, with separate 75 ohm inputs for the low and high bands.

The low band unit (MI-5180) consists of a two-tube amplifier designed to operate on Channels 2 through 6. The high band amplifier (MI-5181) is equipped with three tubes and provides a higher gain than the low band amplifier in order to overcome the increased losses on the high VHF band. It is designed to operate on any VHF Channel 7 through 13. The power supply (MI-5184) on which the amplifiers are mounted is equipped with a rectifier tube, a line fuse, and an "on-off" switch.

A particularly versatile unit, this broadband distribution amplifier can also be used in community "Antenaplex" systems to extend distribution lines; cascaded with other broadband amplifiers; used as a preamplifier for channelized strips in the line amplifiers; or for future expansion of the community system.

One antenna can be connected to both high and low inputs with an MI-5158 crossover network, or a separate antenna may be used for each band if desired.

SPECIFICATIONS

	MI-5180	MI-5181	MI-5182
Source Impedance	75 ohms	75 ohms	
Load Impedance	75 ohms	75 ohms	
Gain (Nominal)	22 db	27 db	
Frequency Response	54 to 88 mc	174 to 216 mc	
Tube Complement	2 RCA 6BQ7A	3 RCA 6BQ7A	1 RCA 5U4G
*Power Output	0.3 volts rms for each of 3 channels simultaneously	0.3 volts rms for each of 4 channels simultaneously	
Suggested Operating Level	0.15 volts 3 channels	0.15 volts 3 channels	
Overall Length	5¾"	7⅜"	13½"
Overall Width	2"	2"	8½"
Overall Height	4"	4"	7½"
Mounting Dimensions	5¼" x 2 1/16"	7" x 2⅛"	13" x 16½"
Weight			14 lbs.
Power Requirement			117 volts ±7 volts 60 cycle a-c
Power Consumption			80 watts

* Equivalent to .84 volts peak to peak.

May 1954

RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
Camden, N. J.

Community "Antenaplex" Line Amplifier System

DESCRIPTION

The Community "Antenaplex" Line Amplifier with its incorporated power supply is mounted in a sturdy, ventilated, weather-resistant cabinet. For each channel two amplifier strips are cascaded, thus providing excellent stability, greater flexibility and high gain. Amplifiers with one, two or three channel operation are available.

The Line Amplifier is provided with one system output and one test output. The test output is located near the amplifier output. It is used in setting up the system and in servicing the system. It provides a means of testing the operation of the system, at any amplifier location, without interruption of service.

Each amplifier to be used in the complete Community "Antenaplex" System is precision tuned and aligned before shipment from the factory. The stability of the amplifier remains more constant and requires less service than r-f amplifiers of comparable channel band width.

All coaxial cable connections to the amplifier strip are A/N plug and receptacle type insuring positive connection and easy installation and service.

The B-plus voltage adjustable to within 5% of nominal by means of a selective switch and associated resistors gives maximum amplifier tube life.

The same type weather-resistant ventilated cabinet that houses the Tower Amplifier System protects this equipment from excessive operating temperatures and bad weather, thus insuring longer equipment life at lower maintenance cost.

SPECIFICATIONS

Input.....75 ohms impedance—Line amplifier includes a dividing network for division of line signals to each channel amplifier and to one spare test.

Output.....75 ohms impedance—One test output on each unit

Frequency Response.....Within 3 db for 6 megacycle bandwidth

Gain* (3 channel system).....60 db

Rated Power Output
(channels 2, 4, and 6).....1.25 volts/75 ohms each channel

Dimensions:
- Overall Height Including Brackets.....29 1/8"
- Width.....20"
- Depth Outside (Including 1 1/8" Eave and 1/2" Mounting Bracket).....10 7/8"
- Depth Inside.....9 1/8"
- Mounting Dimension.....26 3/8" x 17"
- Total Weight Approximately.....85 lbs.

Tube Complement:
- a. Power Supply.....2 RCA 5R4GY
- b. TV Amplifier Strips, Channels 2 to 6.....3 RCA 6AK5 each

Fuses—Power Supply.....2 amperes type 3AGSlo-Blo

Power Required.....60 cycle, 105-125 volts a-c, 120 watts (for 3 channel unit)

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* Nominal line voltage, gain controls maximum.

ANTENAPLEX SALES
RADIO CORPORATION OF AMERICA
Engineering Products Department, Camden, N. J.

SERIES 5300 "ANTENAPLEX"

CATALOG SA.2050

GENERAL FEATURES

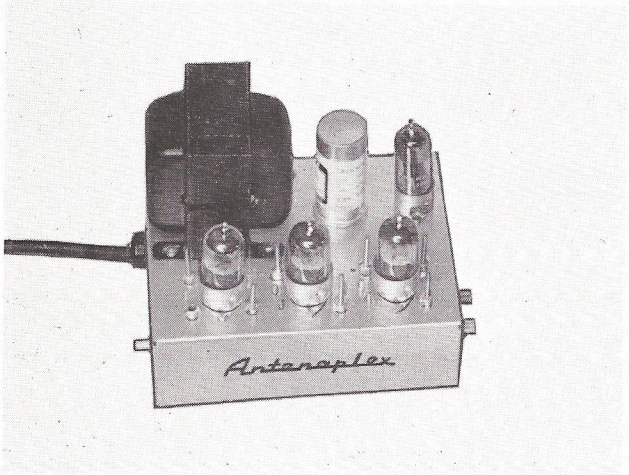
- A full line of equipment, making available every item required for a complete installation
- Quality apparatus at low price
- Easy to install
- Requires minimum of maintenance
- Pre-aligned amplifiers with built-in power supply
- Flat response ±1.5 db from 54 mc to 88 mc and from 174 mc to 216 mc ±½ db for 6 mc channel
- Amplifiers may be cascaded for more gain
- Low noise factor—good color signal

BROADBAND AMPLIFIERS, MI-5301, MI-5302, MI-5303

APPLICATIONS

The RCA Series 5300 of "Antenaplex" Broadband Amplifiers (MI-5301, MI-5302 and MI-5303) has been designed for use in small to medium size distribution systems, where maximum economy of amplification and optimum frequency response are required. These broadband amplifiers are ideal for use in "Antenaplex" installations in apartment houses, small hotels, dealer showrooms, motels and closed circuit systems. All units supplied with protective covers.

Broadband Amplifier, MI-5301 (with cover removed)

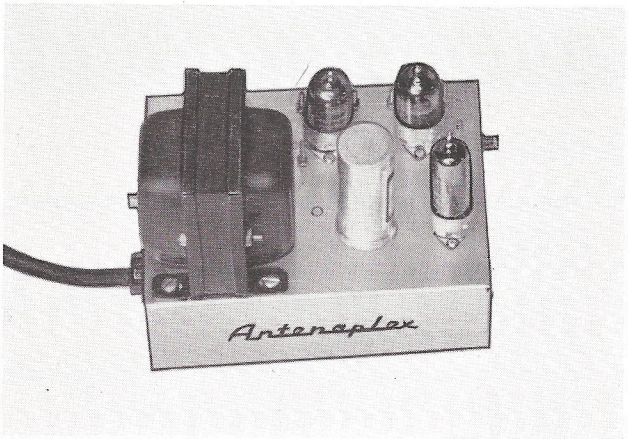


Broadband Amplifier, MI-5303 (with cover removed)

DESCRIPTION

All units are completely self-contained and pre-aligned, and require only input and output connections and a 117-volt, a-c line connection (power cord supplied). Each unit is fused in both primary and B+ circuits.

The MI-5301 "Antenaplex" Broadband Amplifier amplifies channels 2 to 13 in two frequency bands, 2 to 6 and 7 to 13. Separate input connections for each of these bands are provided and either combined or separate outputs may be had without additional accessories. The highband section has been designed to provide additional gain for the high frequency channels where distribution losses are higher.



Broadband Amplifier, MI-5302
(with cover removed)

The MI-5302 and MI-5303 "Antenaplex" Broadband Amplifiers amplify channels 2 to 6 and 7 to 13, respectively. These amplifiers utilize the same r-f circuitry as the MI-5301 for the band covered. A combining connector is provided on the output of the highband amplifier to facilitate combining with a low band unit should this be desirable. Such a condition may occur when a new station comes on the air in what was previously a single-band area. The performance of this combination is essentially the same as that of the MI-5301.

SPECIFICATIONS

	MI-5301	MI-5302	MI-5303
Frequency Band	LOW AND HIGH Ch. 2-13	LOW Ch. 2-6	HIGH Ch. 7-13
	LOW BAND		HIGH BAND
Gain (Nominal)	22 db (12.5 to 1 voltage ratio)		27 db (22 to 1 voltage ratio)
Frequency Response	±1½ db 54-88 mc		±1½ 174-216 mc
Input:			
Source Impedance	75 ohms		75 ohms
Maximum Input	24 millivolts		14 millivolts
Recommended Input	12 millivolts		6.8 millivolts
Minimum Input	Field Tests indicate that satisfactory pictures can be obtained with levels of 100 microvolts. Units may be cascaded to obtain increased gain for normal output levels. Isolation between units of at least 3 db is suggested when cascading.		
Output:			
Load Impedance	75 ohms		75 ohms
Maximum Power Output	0.30 volt (RMS) 75 ohms each channel for three channels simultaneously		0.30 volt (RMS) 75 ohms each channel for four channels simultaneously
Recommended Power Output	0.15 volt for each channel		0.15 volt for each channel
RF Tube Complement	2 RCA 6BQ7-A		3 RCA 6BQ7-A
	MI-5301	MI-5302	MI-5303
Dimensions (with cover):			
Height	6¼"	6¼"	6¼"
Length	9"	7"	7"
Width	6¾"	4½"	4½"
Power Supply	Self contained	Self contained	Self contained
Power Supply Rectifier	5Y3	6X4	6X4
Power Required	60 watts	25 watts	40 watts

For Series 5300 Accessory Equipment see SA.2051.

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"ANTENAPLEX" CABINETS

CATALOG SA.7000

WEATHERPROOF CABINETS, MI-6971 AND MI-6974

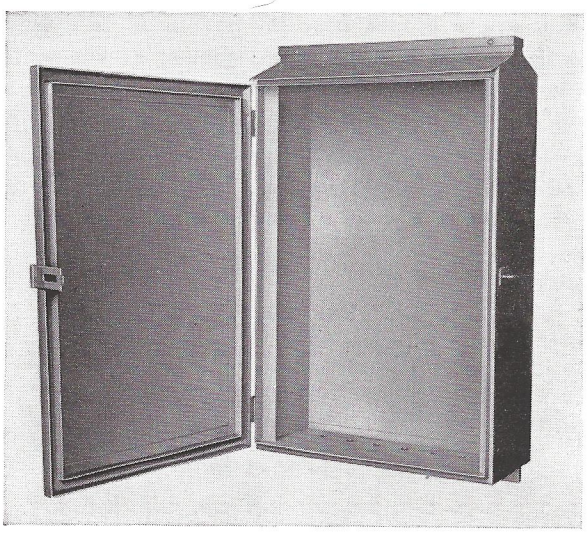
For outdoor use. This cabinet is designed to house community amplifiers and the distribution and a-c power line accessories. Will accommodate the Type SX-8B Amplifier and Power Supply. Cabinet is vented from the bottom to insure proper heat dissipation.

Dimensions

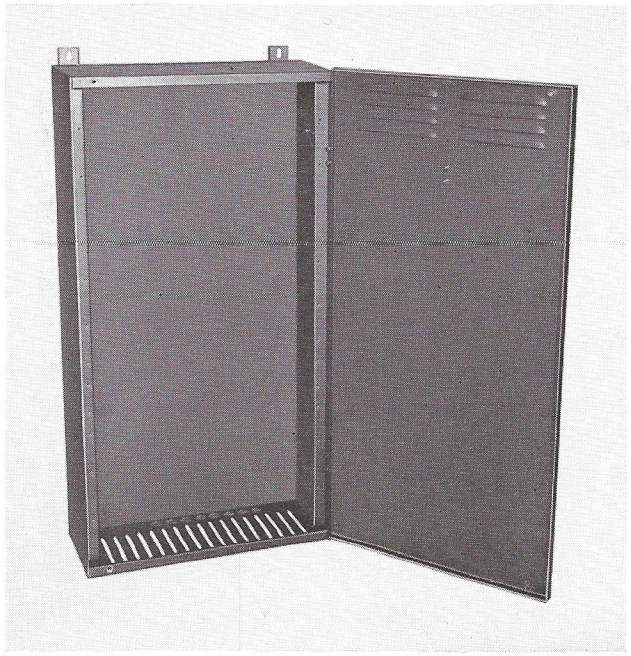
	Exterior	*Interior*
Height	27"	22"
Width	20"	19⅝"
Depth	9¾"	8½"
Finish	Galvanized sheet steel, finished in navy gray enamel	Black

Stock Identification:

Left Hand Hinge.....MI-6971
Right Hand Hinge.....MI-6974



MI-6971



MI-6934-A

CABINET RACK, MI-6934-A

For indoor use. Will accommodate the Type SX-8B "Antenaplex" Amplifier and Power Supply. Cabinet is vented from the bottom.

Dimensions

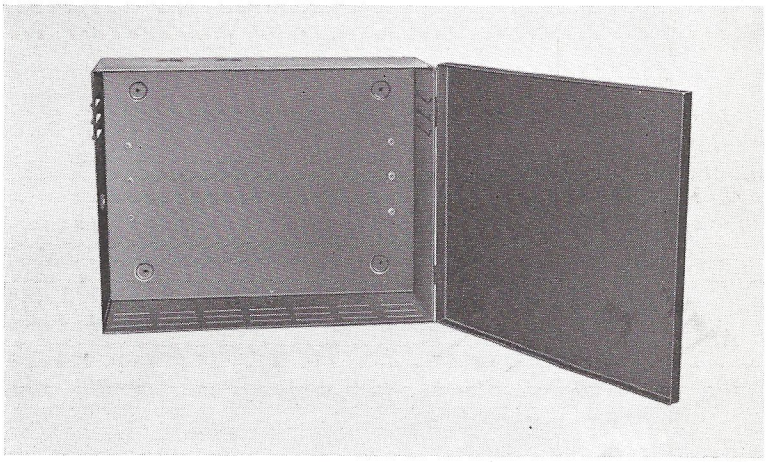
	Exterior	*Interior*
Height	40"	37½"
Width	19¾"	19¼"
Depth	8½"	7½"
Finish	Low gloss umber gray hammeroid	Low gloss umber gray metallic enamel

CABINET, MI-5172

For indoor use. Will accommodate the Type SX-3B "Antenaplex" Amplifier and Power Supply. Cabinet is vented from the bottom.

Dimensions

	Exterior	*Interior*
Height	21¼"	19¼"
Width	20¾"	20¼"
Depth	8"	7½"
Finish	Low gloss umber gray hammeroid	Low gloss umber gray metallic enamel



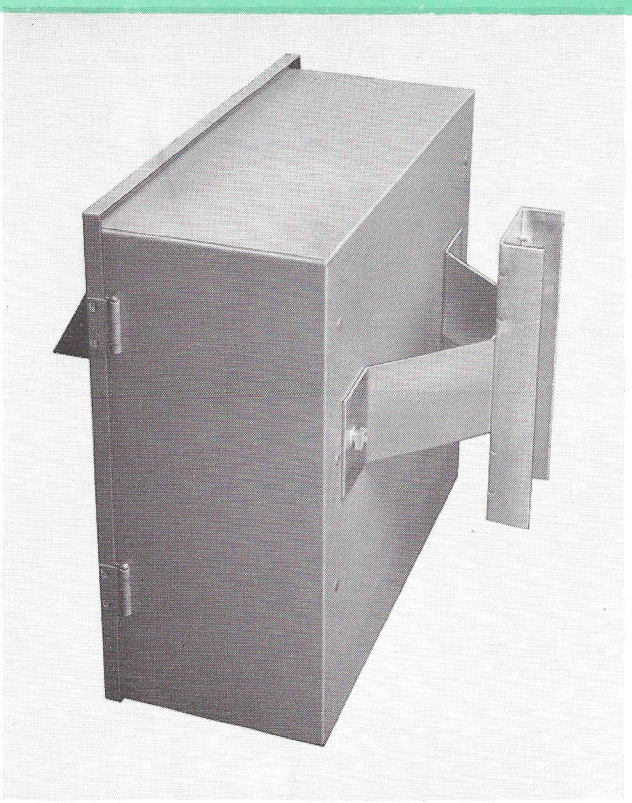
MI-5172

WEATHERPROOF CABINET, MI-5305

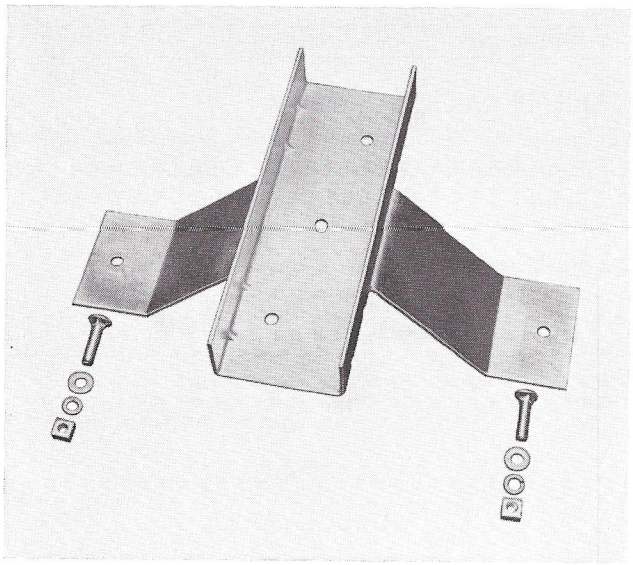
For outdoor use. Designed to house distribution amplifiers and power line accessories. Incorporates r-f insulation for radiation suppression. Cabinet is vented from the bottom to insure proper heat dissipation. A ¾" plywood mounting board facilitates arrangement of components. Inside is black for maximum heat transfer. Provisions are made for ¾" conduit, 6 feed-through connections for type SO-239 fittings and MI-5159 power line filter mounting. MI-5306 Bracket accommodates this cabinet for pole mounting (extra).

Dimensions

	Exterior	*Interior*
Height	20½"	16"
Width	22"	16"
Depth (includes Rain Shield)	11⅝"	8"
Finish	Heavy zinc plated, baked on enamel	Black



MI-5305 showing MI-5306 Bracket



MI-5306

POLE MOUNTING BRACKET, MI-5306

For mounting Cabinet, MI-5305, to poles of 8 to 14 inches in diameter. It provides a minimum clearance of 4 inches between cabinet and pole. Hardware for attaching bracket to cabinet is supplied.

AMPLIFIER CHASSIS, MI-6935

Chassis MI-6935 provides mounting facilities for a maximum of 8 channel amplifiers, MI-6938-B, MI-6939-B, MI-6940-A in Cabinet Rack MI-6934-A or similar, or it may be installed in any standard 19 inch rack. The chassis contains a network for combining the amplifier outputs and has a VHF connector to which the combined amplifier outputs are connected.

Dimensions

Height	15½"
Width	19"
Depth	5⅜"

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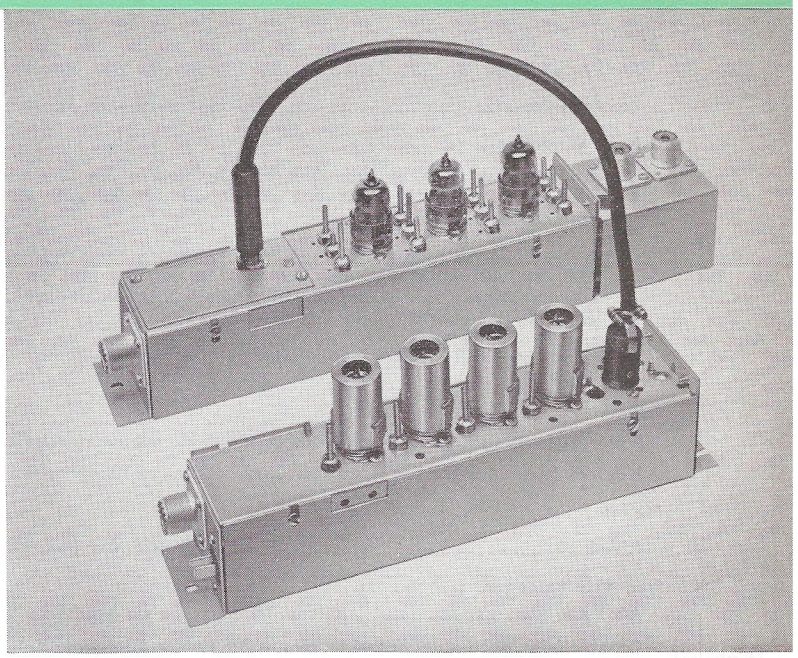
"ANTENAPLEX" AUTOMATIC GAIN CONTROL UNITS

MASTER ITEMS-5147, 5148-A, 5149-A

CATALOG SA.24



FEATURES

- Highly efficient units for community or building type "Antenaplex" systems
- Engineered and constructed for continuous operation
- Separate AGC amplifier and control generator for each channel
- Designed to reduce picture quality variation caused by varying signals
- Full channel bandwidth 6 mc for highest picture fidelity
- Separate generator strip permits control of d-c output to separate AGC amplifier, thus providing linearity for a wide range of nominal input levels
- Designed for easy installation and maintenance
- Range of control: nominal 20 db, maximum 40 db

APPLICATION

Automatic gain control equipment is designed for installations requiring control of television R-F levels on any of the TV channels 2 through 6 on community or multi-building "Antenaplex" systems. The AGC unit is engineered for channelized operation and consists of an AGC amplifier and control generator for each channel. In operation the unit stabilizes output of the amplifier for varying levels of received signals. This function improves picture quality by minimizing overloading of the amplifier.

This equipment is available for one, two, or three channel operation.

DESCRIPTION

The efficient units which comprise the Automatic Gain Control are engineered for twenty-four hour operation and are designed for use with either tower or line amplifiers in community systems and in building installations where required.

For one channel operation the AGC unit normally is installed at the factory in the same cabinet with the amplifier and utilizes the amplifier's power supply. For two or three channel systems the units are usually shipped in a separate cabinet equipped with its own power supply.

AGC equipment is custom engineered for each Antenaplex system and is installed on each channel following the pre-amplifier strips or converters. In strong signal locations where pre-amplifiers are not required, the unit may be connected directly to the antenna. The unit is plug-in connected, providing easy installation and servicing. Input and output connections are SO-239 type connectors. The control generator may be removed for servicing without service interruption. The AGC amplifier may be checked for normal operation while in service.

Jan. 1954

SPECIFICATIONS

Input:

AGC Amplifier.....75 ohm input and output

Control Generator.....75 ohm input—d-c output

Input Operating Level:

Minimum.....Control can be maintained to levels as low as 50 microvolts across 75 ohms, because of unique separation of control unit from AGC amplifier.

Nominal.....1000 microvolts 75 ohms. The nominal will change with the input signal available. If a lower minimum is required a lower nominal will be required. Linearity can be maintained with a lower than .001 volts nominal input.

Maximum.....The maximum is not limited if the nominal voltage is increased.

***Output:**

Power Output.....0.5 volts rms—no AGC voltage applied

Nominal Operating Level.....10 millivolts

***Gain:**

(Nominal).....38 db with 0 volts d-c

Frequency Response:

AGC Amplifier.....Within 1.5 db for 6 mc bandwidth

Control Unit.....Tuned to picture R-F carrier approximately 3 mc bandwidth

* Subject to channel and tube variations.

Tube Complement:

Amplifier.....3 RCA 6AK5 or 3 RCA 5654

Control Generator.....1 RCA 6AL5, 3 RCA 6AK5 or 3 RCA 5654

Power Required:

AGC Amplifier.....35 ma. at 135 volts d-c
0.5 amp. at 6.3 volts a-c

Control Generator.....50 ma. at 135 volts d-c
0.75 amp. at 6.3 volts a-c

Dimensions (AGC Amplifier or Control Generator):

Overall Height, including Tubes.....4"

Overall Length .....10¾"

Overall Width .....2"

Mounting Dimensions.....9 17/32"
and 2$\frac{1}{16}$" to adjacent mounting

Flatness Factor (ratio of input change in db—output change in db)....10

Stock Identification

AGC Control Generator MI-5147

AGC Amplifier Channels 2-3 .....MI-5148-A

AGC Amplifier Channels 4, 5 or 6.....MI-5149-A

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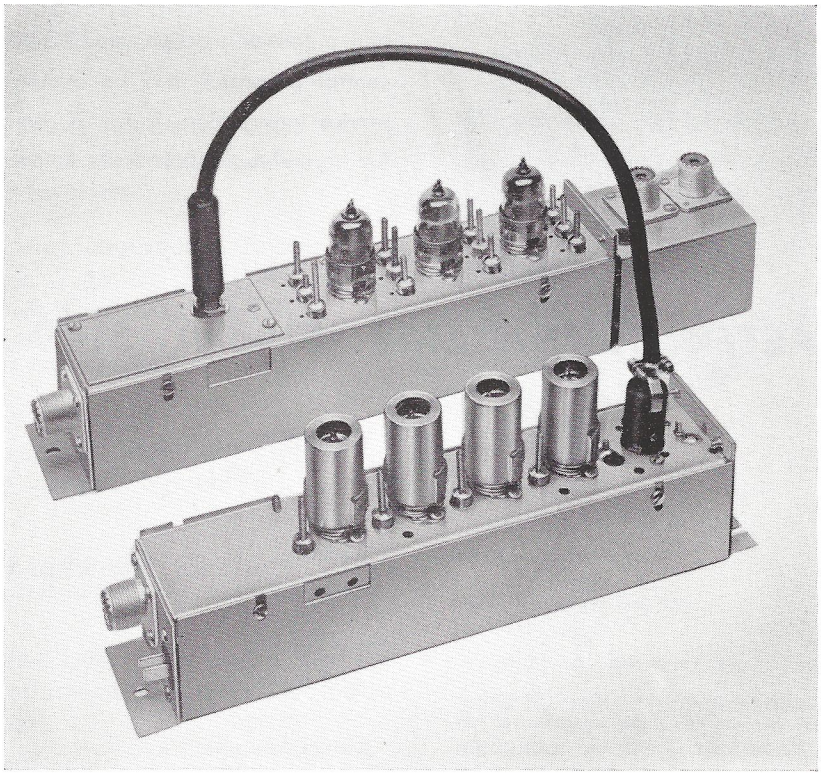
"ANTENAPLEX" AUTOMATIC GAIN CONTROL UNITS

MASTER ITEMS-5147, 5148-A, 5149-A (pages 1 & 2)
MASTER ITEMS-5145 & 5146 (pages 3 & 4)

CATALOG SA.4006



FEATURES

- **Highly efficient units for community or building type "Antenaplex" systems**
- **Engineered and constructed for continuous operation**
- **Separate AGC amplifier and control generator for each channel**
- **Designed to reduce picture quality variation caused by varying signals**
- **Full channel bandwidth 6 mc for highest picture fidelity**
- **Separate generator strip permits control of d-c output to separate AGC amplifier, thus providing linearity for a wide range of nominal input levels**
- **Designed for easy installation and maintenance**
- **Range of control: nominal 20 db, maximum 40 db**

APPLICATION

Automatic gain control equipment is designed for installations requiring control of television R-F levels on any of the TV channels 2 through 6 on community or multi-building "Antenaplex" systems. The AGC unit is engineered for channelized operation and consists of an AGC amplifier and control generator for each channel. In operation the unit stabilizes output of the amplifier for varying levels of received signals. This function improves picture quality by minimizing overloading of the amplifier.

This equipment is available for one, two, or three channel operation.

DESCRIPTION

The efficient units which comprise the Automatic Gain Control are engineered for twenty-four hour operation and are designed for use with either tower or line amplifiers in community systems and in building installations where required.

For one channel operation the AGC unit normally is installed at the factory in the same cabinet with the amplifier and utilizes the amplifier's power supply. For two or three channel systems the units are usually shipped in a separate cabinet equipped with its own power supply.

AGC equipment is custom engineered for each Antenaplex system and is installed on each channel following the pre-amplifier strips or converters. In strong signal locations where pre-amplifiers are not required, the unit may be connected directly to the antenna. The unit is plug-in connected, providing easy installation and servicing. Input and output connections are SO-239 type connectors. The control generator may be removed for servicing without service interruption. The AGC amplifier may be checked for normal operation while in service.

MASTER ITEMS - 5147, 5148-A, 5149-A

SPECIFICATIONS

Impedance:

- AGC Amplifier.....75 ohm source and load
- Control Generator.....75 ohm source d-c output

Input Operating Level:

- Minimum.....Control can be maintained to levels as low as 50 microvolts across 75 ohms, because of unique separation of control unit from AGC amplifier.
- Nominal.....1000 microvolts 75 ohms. The nominal will change with the input signal available. If a lower minimum is required a lower nominal will be required. Linearity can be maintained with a lower than .001 volts nominal input.
- Maximum.....75 millivolts approx.

*Output:

- Power Output.....0.5 volts rms—no AGC voltage applied
- Nominal Operating Level.....10 millivolts

*Gain:

- (Nominal).....38 db with 0 volts d-c

Frequency Response:

- AGC Amplifier.....Within 1.5 db for 6 mc bandwidth
- Control Unit.....Tuned to picture R-F carrier approximately 3 mc bandwidth

* Subject to channel and tube variations.

Tube Complement:

- Amplifier.....3 RCA 6AK5 or 3 RCA 5654
- Control Generator.....1 RCA 6AL5, 3 RCA 6AK5 or 3 RCA 5654

Power Required:

- AGC Amplifier.....35 ma. at 135 volts d-c
  0.5 amp. at 6.3 volts a-c
- Control Generator.....50 ma. at 135 volts d-c
  0.75 amp. at 6.3 volts a-c

Dimensions (AGC Amplifier or Control Generator):

- Overall Height, including Tubes.....4"
- Overall Length.....10¾"
- Overall Width.....2"
- Mounting Dimensions.....9 17/32"
  and 2 1/16" to adjacent mounting

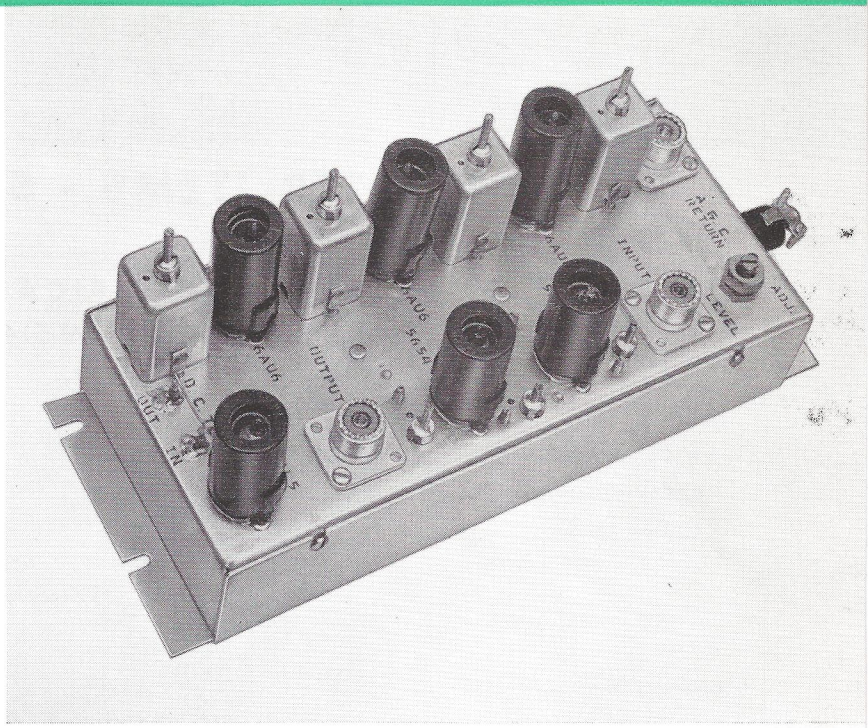
Flatness Factor (ratio of input change in db—output change in db)....10

Stock Identification

- AGC Control Generator.....MI-5147
- AGC Amplifier Channels 2-3.....MI-5148-A
- AGC Amplifier Channels 4, 5 or 6.....MI-5149-A

ATIC GAIN CONTROL UNITS

MASTER ITEMS - 5145 & 5146



FEATURES

- **Highly efficient broadband units for community or building type "Antenaplex" Systems**
- **Designed for use as a control unit at an "Antenaplex" repeater or antenna amplifier location**
- **MI-5145 AGC unit covers the low bands (Channels 2 to 6); MI-5146 covers high bands (Channels 7 to 13)**
- **Engineered and constructed for continuous service**
- **Designed to reduce variations in picture quality caused by varying signals**
- **Full channel bandwidth for high picture fidelity**
- **Gain is controlled by channel with highest picture and sound carrier product—helps prevent overload.**

APPLICATION

The MI-5145 is an AGC Control Unit for use on the low TV bands (channels 2-6) at an Antenaplex repeater amplifier location. The MI-5146 is for use on the high TV bands (channels 7-13) at an Antenaplex repeater amplifier location. A broadband amplifier, a channelized amplifier, or a combination of both is used with the unit to give the gain necessary at the particular location.

DESCRIPTION

Each control unit contains a control amplifier, which functions as a variable attenuator. The loss can be made to vary between a minimum of 0 db to a maximum of 23 db. This unit incorporates a self-contained intercarrier control generator to provide bias for the control amplifier.

If the MI-5146 control amplifier (channels 7-13) is aligned to cover only a single channel on the high band, the input variation can be extended to approximately ±20 db for a ±2 db change in output. The unit can be used in a tower installation when the variation in antenna signals falls in this range.

When more than one channel is present on the system (MI-5145 or MI-5146), and one is appreciably higher than the others, gain is essentially controlled by the channel with the highest picture and sound carrier product. This helps prevent overload on either the sound or picture carrier. The other channels follow the controlling channel, maintaining the same ratio as was present on the input. The next highest channel takes over when the controlling channel leaves the air.

Three signal connections to the control unit are necessary. Signal input and output connections are required. In addition, a sample of the line output with the high bands (or low bands, as the case may be), removed, must be returned to the AGC control unit. A level control provides adjustment of the line output for proper operation.

"ANTENAPLEX" AUTOMATIC GAIN CONTROL UNITS

MASTER ITEMS - 5145 AND 5146

SPECIFICATIONS
(Both MI-5145 and MI-5146 except as noted)

Input:

A. Control Amplifier.....75 ohm source

B. Control Generator.....75 ohm source

C. Input Levels:

1. Control Amplifier.....1 mv. minimum
400 mv. maximum

2. Control Generator.....Picture and sound carrier levels
4 mv. minimum

Frequency Response (MI-5145):

A. Control Amplifier.....Within ±½ db from channel 2 picture to channel 6 sound

B. Control Generator.....Tuned to 4.5 mc

Frequency Response (MI-5146):

A. Control Amplifier.....Within ±½ db from channel 7 picture to channel 13 picture with not more than 1 db variation between channel 13 picture and sound.

B. Control Generator.....Tuned to 4.5 mc

Range of Attenuation:

Nominal operating bias is —3 volts giving and attenuation of approximately 13 db. The recommended operating range extends ±10 db from this value.

Overall Average Gain of MI-5145 with:

A. Two MI-5180 Broadband Amplifiers.....26 db

B. One MI-5180 Broadband Amplifier and a Channelized Amplifier MI-6938-B or 6939-B.....40 db

Overall Average Gain of MI-5146 with:

A. Two MI-5181 Broadband Amplifiers.....33 db

B. One MI-5181 Broadband Amplifier and a Channelized Amplifier MI-6940-A.....50 db

Tube Complement: 3 RCA 6AU6 1 RCA 6AL5 2 RCA 5654

Power Required.....65 ma at +135 volts d-c
1.6 amps. at 6.3 volts a-c

Dimensions:

Overall Height, including tubes.....4½"

Overall Length.....10¾"

Overall Width.....4"

Mounting Dimensions.....9 17/32" and 2 1/16" to adjacent mounting

Output Regulation.....2.5 db or less change in output for 20 db change in input

Controls.....Level adjustment (controls threshold of operation)

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ATTENUATORS AND LINE EQUALIZERS

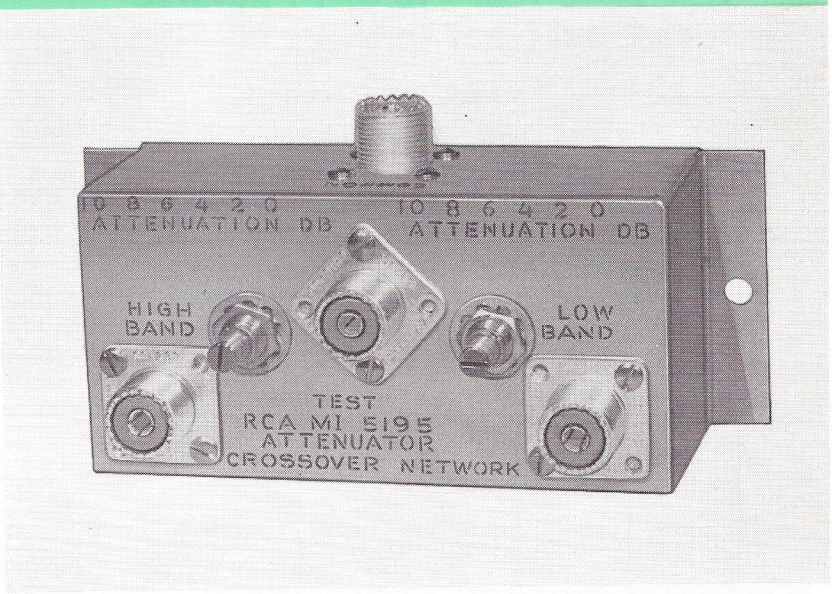
CATALOG SA.7530

Step Attenuator and Crossover Network
MI-5195

APPLICATIONS

The MI-5195 Step Attenuator and Crossover Network is designed for use in TV "Antenaplex" systems where channels 2 through 6 are to be efficiently combined with or separated from channels 7 through 13, and where variable attenuation may be desired. The MI-5195 may be used to separate the high band from the low band, when a single all-band antenna is used to feed broadband distribution amplifiers.

Similarly the unit may be used in Community or Building Distribution Systems, when the amplifiers are to be fed from a single transmission line. The attenuators provide a means of adjusting input levels to the independent amplifiers without interruption of signal.



Step Attenuator and Crossover Network, MI-5195

DESCRIPTION

The unit contains a crossover network and two step attenuators—one for the low band (channels 2 through 6) and the other for the high band (channels 7 through 13). Each step attenuator consists of a six position switch and printed circuit, pi-section pads providing 0 to 10 db attenuation in 2 db steps. A test output of 20 db attenuation is also provided. The MI-5195 unit may be used in either direction, that is, as a combining network or a dividing network.

SPECIFICATIONS

Insertion Loss	0.5 db
Impedance	75 ohms, unbalanced
Band Pass	Low band 0-90 mc High band above 170 mc
Rejection:	
Low Band from High Band	15 db
High Band from Low Band	25 db
Test Output Attenuation	20 db
Dimensions	Length 6", width 3", height 2⅝"*
Mounting Dimensions	5½", 3/16" holes
Weight	1 lb. (approx.)

* Including fittings.

Fixed Attenuator Pads and Terminations

For reducing rf voltages on coaxial cable or amplifier inputs without affecting response.

MI-5138	Termination—75 ohms
MI-5139	½ watt, attenuator pad 3 db (orange)
MI-5140	½ watt, attenuator pad 6 db (blue)
MI-5141	½ watt, attenuator pad 10 db (brown)
MI-5142	½ watt, attenuator pad 20 db (red)
MI-5143	½ watt, attenuator pad 30 db (white)

"ANTENAPLEX" VHF CROSSOVER NETWORK

MI-5158

CATALOG **SA.44**

FEATURES

- **Constant impedance**
- **Low loss mixing or dividing**
- **Small size—convenient to install**
- **No maintenance**
- **Universal for combining or dividing**

USES

The RCA MI-5158 Crossover Network was designed for use in Antenaplex systems where channels 2-6 are to be efficiently combined with or separated from channels 7-13. It may be used with a single all band VHF antenna to supply signals to low and high band broadband amplifiers. Similarly it may be used in multiple building or community distribution systems when the amplifiers are to be fed from or combined into a single transmission line.

DESCRIPTION

The VHF Crossover Network is designed for 75 ohm unbalanced input and output and is provided with type SO-239 female connectors. The low and high sections are conveniently marked for identification purposes. The unit is intended for either forward or reverse direction use and will perform equally well for either purpose. The case is rugged, mounting is simple two hole type and the circuits are passive providing the best reliability and lowest maintenance.

SPECIFICATIONS

Insertion Loss	0.2 db maximum for VHF
Impedance	75 ohm unbalanced
Band pass:	
Low band section	Channel 2 to 6
High band section	Channel 7 to 13
Rejection:	
Low band from high band	20 db nominal
High band from low band	20 db nominal
Mechanical:	
Height including fittings	1⅞"
Width	$1\frac{15}{16}$"
Length	4¾"
Mounting dimensions, 2 holes	4¼ inches center

May 1954

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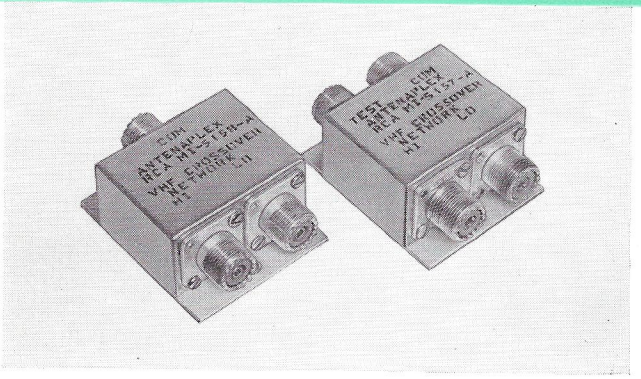
"ANTENAPLEX" TRANSFORMERS & NETWORKS



VHF Mixer Networks

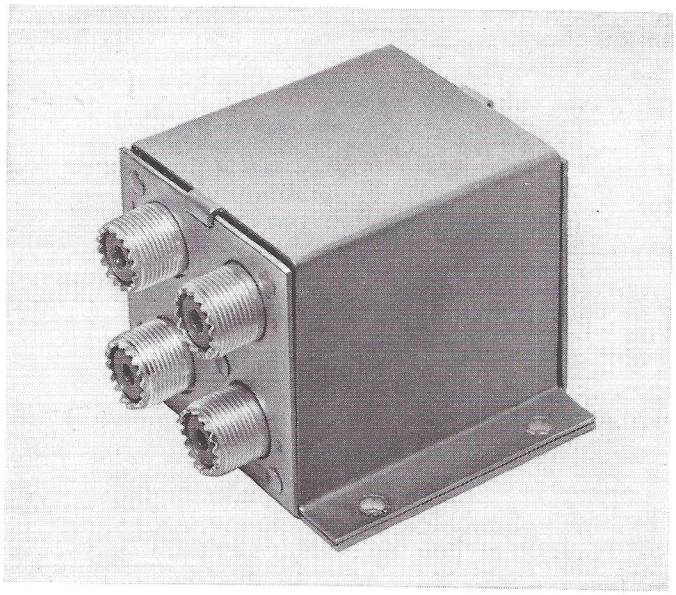
VHF Mixer Networks are used for dividing or combining three low or high band non-adjacent TV channels. Nominal separation between adjacent channels is 20 db, and loss in each channel is practically negligible (0.8 db nominal).

MI-5163 is stock aligned to channels 2, 4 and 6, but can be retuned to channels 3 and 5,* MI-5166 is stock aligned to channels 7, 9, 11, but can be retuned to other high-band non-adjacent channels.* MI-5164 is stock aligned to channels 7, 9, 11, 13.*

Dimensions, MI-5163, MI-5166:
- Overall Length ..... 4"
- Overall Width ..... 3¾"
- Height (including trimmers) ..... 2¾"

Dimensions, MI-5164:
- Overall Length ..... 4"
- Overall Width ..... 4¾"
- Height (including trimmers) ..... 2¾"

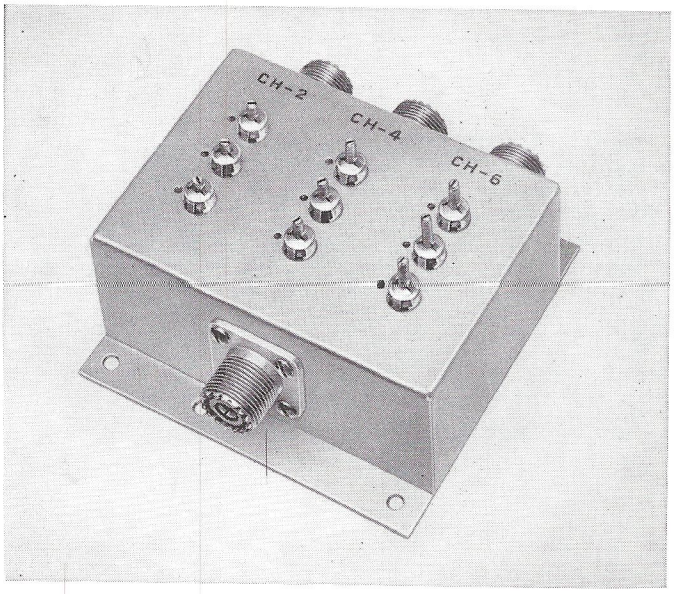
* For retuning an additional charge will be made.



VHF Crossover Networks

The MI-5157-A and the MI-5158-A Crossover Networks are both designed to combine or separate channels 2 through 6 and 7 through 13. They are 75 ohm input and output devices. The MI-5157-A differs from MI-5158-A in that it incorporates a test connection for level checks.

Dimensions:
- Overall Length ..... 3"
- Overall Width ..... 2¼"
- Overall Height ..... 1¼"



Distribution Networks

Distribution Network MI-6896-A is designed to divide a signal from a single coaxial line (75 ohms) to four coaxial distribution lines, without an external power source. It may also be used to provide signals for four customers from each tap-off in a community TV system. Division of signal reduces levels by approximately 6 db in the low bands and 7 db in the high bands. It may be used for combining as well as dividing.

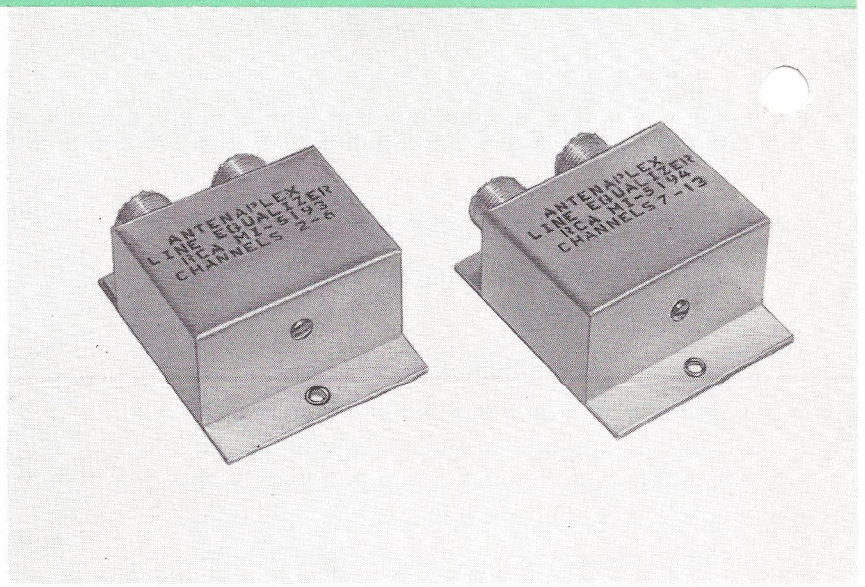
Dimensions:
- Overall Length ..... 3⅞"
- Overall Width ..... 3⅜"
- Overall Height ..... 3"

Line Equalizer

Low Band (Ch. 2 to 6) . . MI-5193
High Band (Ch. 7 to 13) . . MI-5194

APPLICATIONS

In long cable runs, using broadband or channelized distribution systems, it is often desirable to compensate for the inherent rising attenuation vs. frequency characteristics of coaxial cables. These passive networks have the complementary attenuation characteristic to 1200 feet of RG11/U Cable in their respective bands, thus producing a composite flat characteristic when inserted at proper intervals. They may also be used for corresponding lengths of other 75 ohm cables as listed below.



Line Equalizers, MI-5193, MI-5194

SPECIFICATIONS

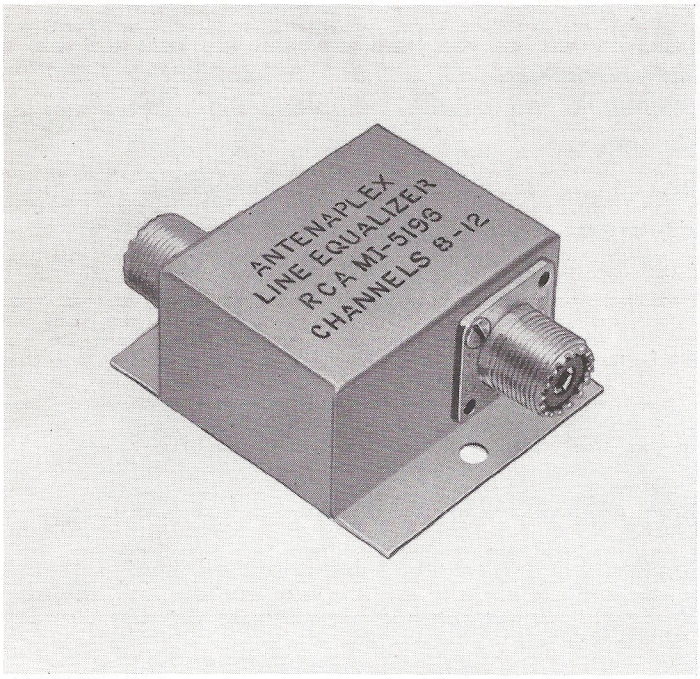
Input.....75 ohms, unbalanced, constant resistance type

Output.....75 ohms, unbalanced, constant resistance type

Insertion Loss.....0.5 db nominal at upper band limit

Connectors.....Type SO-239 female coaxial connectors

	Low Band	*High Band*
Equalization:	*MI-5193*	*MI-5194*
RG11/U	1200 feet	1200 feet
RG59/U	625 feet	715 feet
K-14 or 21-125	2400 feet	2170 feet



Line Equalizer, High Band, MI-5196 (Channels 8 to 12)

Line Equalizer

High Band (Ch. 8 to 12) . . MI-5196

This unit is designed to equalize 5,000 feet of cable similar to Amphenol, Type 21—125 or1,800 feet of RG11/U over bands 8 through 12 (180 mc-210 mc).

SPECIFICATIONS

Input.....75 ohms, unbalanced, constant resistance type

Output.....75 ohms, unbalanced, constant resistance type

Insertion Loss.....0.5 db, nominal, at upper band limit

Connectors.....Type SO-239, female coaxial connectors

Equalization.....5.5 db (180 mc—210 mc)

Dimensions:

- Overall Length .....2¾"
- Overall Width .....2¼"
- Height .....1¼"
- Mounting Dimensions .....2¼"

(2-hole mounting)

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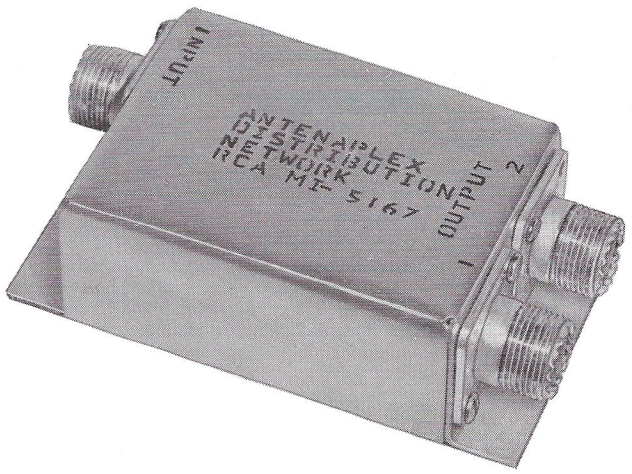
The MI-5167 Distribution Network is a low loss, passive device used to divide a signal from a single 75 ohm input to two 75 ohm outputs. Nominal loss across the VHF television bands is 3.5 db. The MI-5167 Distribution Network is designed for use with MI-6900 connectors. The device is not intended for combining two signals into one.

Dimensions:

Overall Length	4"
Overall Width	2¼"
Height	1½"



Receiver or Antenna Matching Transformer

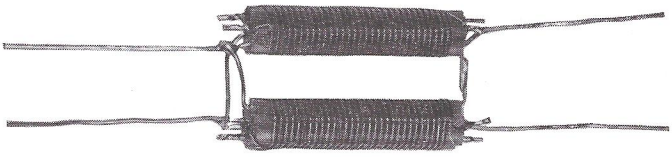
This transformer efficiently matches 75-ohm unbalanced to 300-ohm balanced lines in either direction, with 6 db voltage gain for 75 to 300 ohms. The MI-5128 has capacitors in the output to isolate ac-dc receivers from the system and to prevent burn-out of the elevator coils in case of defective TV receivers.

Dimensions:

Overall Length	4¼"
Overall Width	2"
Overall Height	1¼"

Antenna Matching Transformer

This antenna matching transformer MI-6897 is sometimes known as an elevator coil. It provides a means of matching a 75-ohm impedance source to a 300-ohm impedance line or input, or for matching a 300-ohm impedance source to a 75-ohm impedance line or input.



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"ANTENAPLEX" TAP-OFFS, OUTLET UNITS, ETC.

CATALOG SA.447

MI-5134-35

RCA Tap-Off and Outlet Units are designed to eliminate cable cutting and soldering and to provide effective isolation between the distribution lines and the TV receivers.

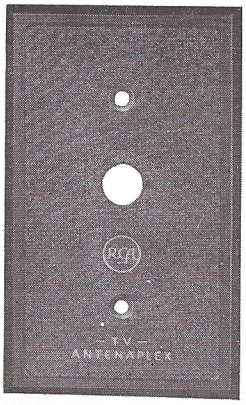
Weatherproof Tap-Off Units MI-5134, MI-5135 and MI-5136

The TV "Antenaplex" Tap-Off Units MI-5134, MI-5135 and MI-5136 are especially designed for outdoor applications and to resist normal weather conditions.

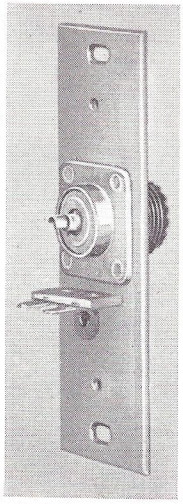
The three units are similarly constructed, but are intended for tapping different size cables as shown in the following table.

MI	Distribution or Transmission Cable	Service or House Drop Cable
5134	RG-11/U Single Shielded*	RG-59/U Single Shielded
5135	RG-11/U Double Shielded*	RG-59/U Single Shielded
5136	RG-11/U Double Shielded*	RG-11/U Single Shielded

* See Specifications for O.D.



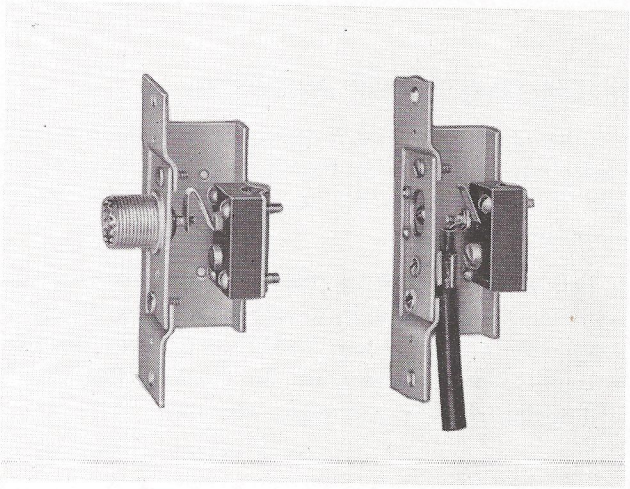
MI-6925



MI-6960

Outlet Units MI-6926, MI-6926-A and MI-6929-A Indoor Tap-off

MI-6926 and MI-6926-A are series outlet units for use in protected locations. MI-6929-A is an indoor tap-off, which mounts the same way as the outlet units. They provide a simple and economical means of tapping a coaxial transmission line without severing the cable or removing the outer covering, shield or dielectric from such cable and without soldering or reinsulating the cable. The unit mounts in a single gang box, flush with the wall or in a single gang surface mounted wiremold box, MI-6925 Flush Plate may be used.



MI-6926 MI-6929-A

MI-6926 is for use with MI-13305 trunk cable.

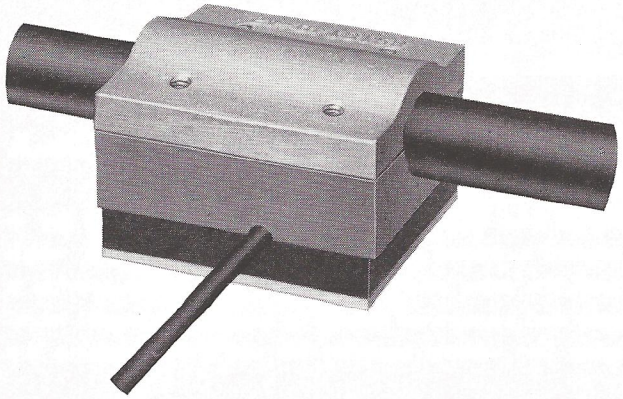
MI-6926-A is for use with RG-11/U trunk cable.

MI-6929-A is for use with RG-11/U trunk cable.

"Antenaplex" Outlet Unit

The MI-6960 "Antenaplex" Outlet Unit is used for wall or baseboard mounting in standard single-gang a-c receptacle or wiremold box. Preferable location for outlet is near the a-c outlet for the TV receiver. It is intended to be used as a terminating outlet.

MI-6925 Flush Plate is used with MI-6926 or 6926-A Tap-Off Outlet or with MI-6960 outlet. Mounts on standard single-gang box.



Bridging Unit MI-5124

The Bridging Unit, MI-5124, is designed to provide a means of bridging a coaxial cable having an outside diameter of 0.875 ± 0.010 inches for an RG-59/U service cable connection.

The unit consists of a base plate, a center block and a cover plate. Assembly is by means of a screw driver or spintite wrench. Drilling tool MI-5150 is used for piercing the cable to provide clearance for the insulating sleeve and bridging element, normally a resistor.

The units provide an economical means of making a weather resistant connection without the use of expensive r-f connectors.

Dimensions:

Length	2¾"
Width	2⅜"
Height	2"

Resistors for Tap-Offs

Designed for flat attenuation over VHF-TV spectrum.

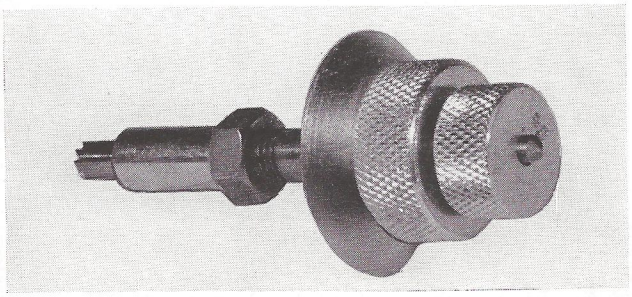
MI-6966	½ watt,	3900	ohm resistor	(20 to box)
MI-6965	½ watt,	2200	ohm resistor	(20 to box)
MI-6964	½ watt,	1500	ohm resistor	(20 to box)
MI-6906	½ watt,	1000	ohm resistor	(20 to box)
MI-6907	½ watt,	820	ohm resistor	(20 to box)
MI-6908	½ watt,	680	ohm resistor	(20 to box)
MI-6909	½ watt,	560	ohm resistor	(20 to box)
MI-6913	½ watt,	470	ohm resistor	(20 to box)
MI-6977	½ watt,	390	ohm resistor	(10 to box)
MI-6976	½ watt,	220	ohm resistor	(10 to box)
MI-6975	½ watt,	120	ohm resistor	(10 to box)
MI-6967	½ watt,	75	ohm resistor	(10 to box)

Cable Tap-Off Tools

Boring Tool, MI-6927

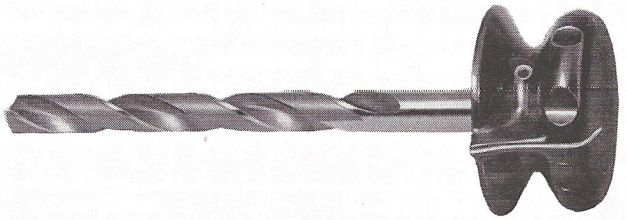
For use with MI-6926, 6926-A, 6929 and 6929-A Tap-Off Units. When making tap-offs, the MI-6927 drills a small hole into the coaxial cable, thereby eliminating the need for cutting the cable.

The cutter of the MI-6927 Boring Tool is replaceable. MI-5137 covers this replacement cutter.



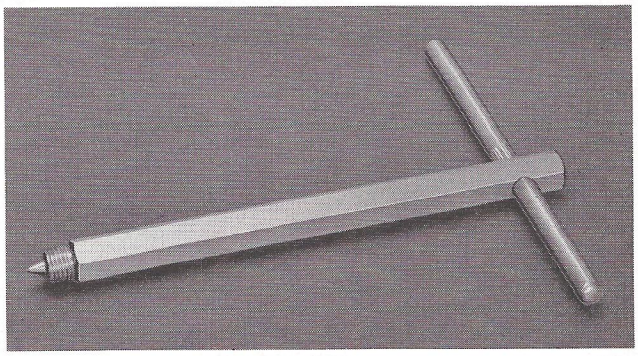
Drilling Tool, MI-5150

Used to install the MI-5124 Bridging Unit. Simple, accurate, easy to use. Merely insert in 5/12" hole in upper clamp and drill into the cable until the tip of the drill reaches the center conductor.



Cable Punch, MI-5129

The MI-5129 Cable Punch is designed to facilitate installation of the probe assembly in Weatherproof Tap-Offs, MI-5134, MI-5135, and MI-5136. Use of the Punch is recommended where Tap-Offs are installed on cable having an oversize outer diameter, and for cold weather installations, when cable sheathing becomes hard.



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"ANTENAPLEX" ACCESSORY EQUIPMENT

SERIES 5300

CATALOG SA.2051

RCA Series 5300 "Antenaplex" is a complete line of equipment designed for use in small and medium size multiple TV Distribution Systems. The equipment has been carefully engineered for easy installation, reliable performance and minimum maintenance. This low-cost system is ideal for apartment houses, small hotels, department stores, dealer showrooms, office buildings, motels and institutions.

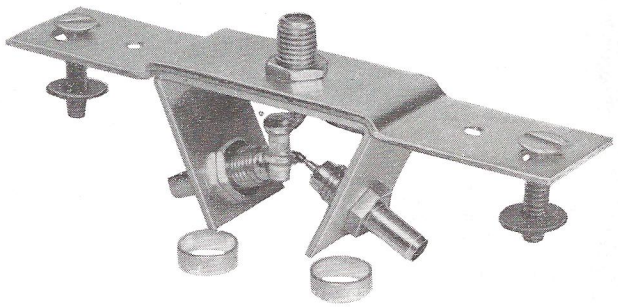
GENERAL FEATURES

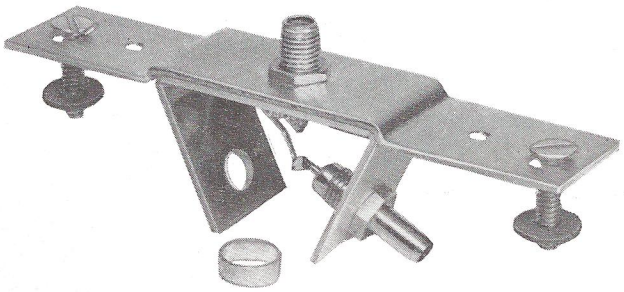
- **Full line of equipment**
- **Quality apparatus at low price**
- **Easy to install**
- **Requires minimum of maintenance**
- **Utilizes broadband amplifier, pre-aligned with built-in power supply**

NOTE: Refer to Catalog SA.2050 for specifications for 5300 Series broadband amplifiers MI-5301, 5302, 5303.

SOLDERLESS TAP-OFF OUTLET, MI-5333

Solderless tap-off outlet for use with RG-59/U cable, flush mounts in standard electric box. Requires 1¼" box depth. Provides isolation of 20 db on Channel 6 and 15 db on Channel 13. Insertion loss of 0.3 db on Channel 6 and 0.5 db on Channel 13, supplied with two 6—23" x ¾" mounting screws and two "O" rings for attaching riser cable. Used with MI-5329 (ivory) or MI-5328 (brown), cover plates.



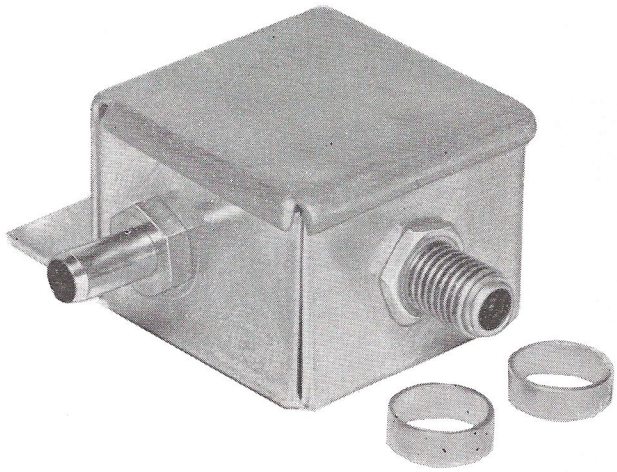


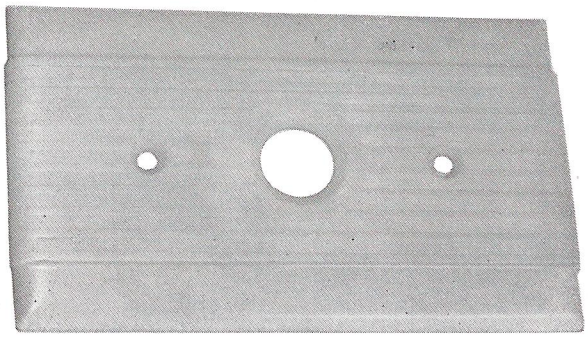
SOLDERLESS TERMINATING TYPE OUTLET, MI-5344

Solderless Outlet for use with RG-59/U cable. Flush mounts in standard electric box. Requires 1¼" box depth. Supplied with two 6—32" x ¾" mounting screws and one "O" ring for attaching riser cable. Used with MI-5329 (ivory) or MI-5328 (brown) cover plates.

SOLDERLESS TAP-OFF OUTLET FOR SURFACE MOUNTING, MI-5337

Solderless tap-off outlet for use with RG-59/U cable. Self contained, for surface mounting. Overall size 2" x 2" x 7/8" with connectors. Provides isolation of 20 db on Channel 6 and 15 db on Channel 13. Insertion loss of 0.3 db on Channel 6 and 0.5 db on Channel 13. Supplied with two "O" rings for attaching riser cable.



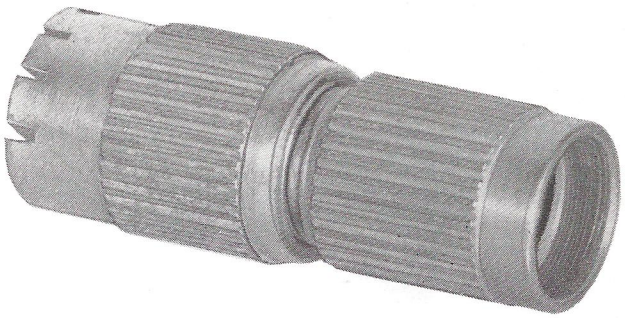


PLASTIC COVER PLATES
MI-5329, Ivory; MI-5328, Brown

A plastic cover plate for use with MI-5333 and MI-5344 tap-off outlet devices. Engineered to fit standard single gang electrical boxes. Overall size: 4½" x 2¾".

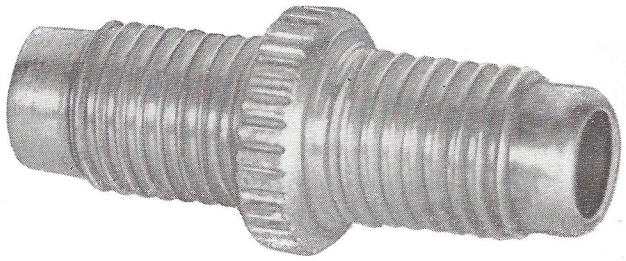
SOLDERLESS MALE CONNECTOR, MI-5326

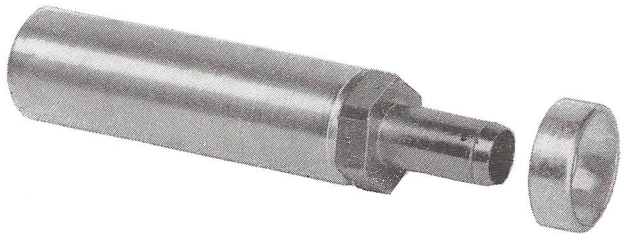
A solderless 75 ohm male connector for use with RG-59/U cable. Requires crimping to secure the cable properly.



SOLDERLESS FEMALE CONNECTOR, MI-5325

A solderless 75 ohm double female connector for use with RG-59/U cable. Used for joining two pieces of cable in conjunction with MI-5326 connectors.



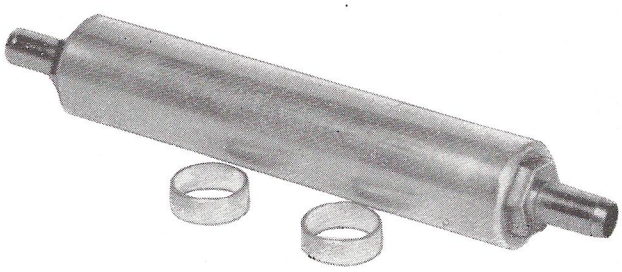


SOLDERLESS TERMINATION, MI-5327

A solderless 75 ohm termination for use with RG-59/U cable. Inserts directly into cable, and is supplied with one "O" ring for attachment.

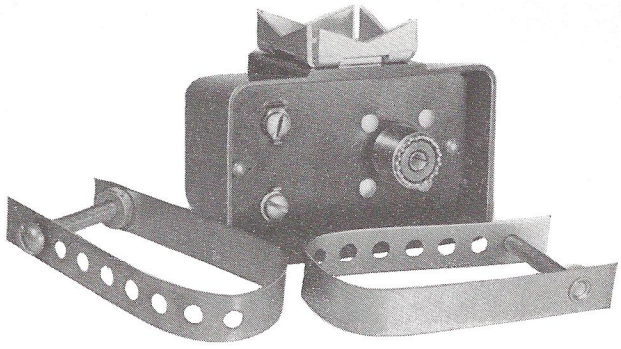
SOLDERLESS ATTENUATOR PADS
3 db, MI-5346; 6 db, MI-5347; 10 db, MI-5348; 20 db, MI-5349

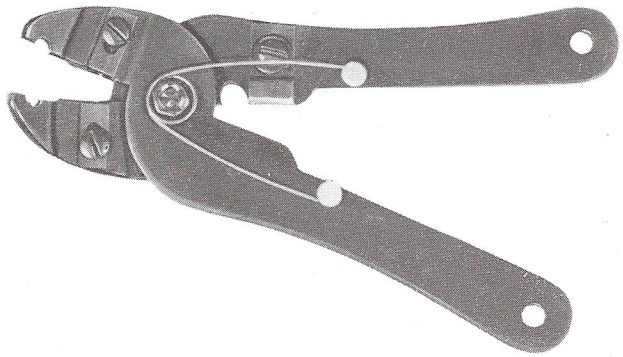
Solderless 75 ohm attenuator pads for use with RG-59/U cable. Each inserts directly into cable, and is supplied with two "O" rings for attachment.



WEATHERPROOF MATCHING TRANSFORMER, MI-5341

A weather-proof antenna matching transformer. Designed for mast or antenna cross-arm mounting. Used as a matching device where it is necessary to make transition from a 300 ohm antenna line to a 75 ohm coax cable. Supplied with two mounting straps, one for mounting and one for grounding coax connector.





CRIMPING TOOL, MI-5342

This sturdy tool is designed for use on Antenaplex Systems, to facilitate installations by providing a convenient method for cutting and stripping RG-59/U cable. It is also intended for use as a crimping tool to crimp "O" rings on miniature fittings using "O" ring MI-5324.

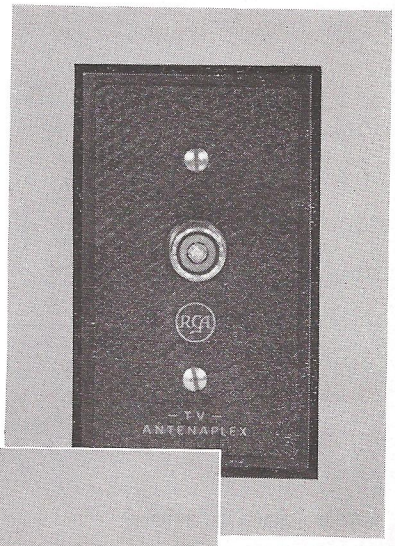
RCA ® TMKS
RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
Camden, N. J.
PRINTED IN U.S.A.

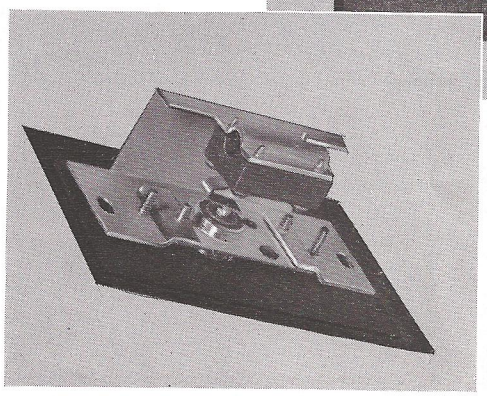
COMMUNITY "ANTENAPLEX"® ACCESSORIES

CATALOG SA.95

Antenna Outlet Unit (For TV Reception)

For wall or base board mounting, as desired by owner. Mounts in similar manner to standard a-c receptacle. Suggested location close to a-c receptacle supplying power to receiver. May be mounted in standard, single-gang box flush with wall or in single gang surface-mounted wire mold box. Provides facilities for plugging in one TV receiver. Consists of outlet unit and flush plate.





Stock Identification:

Outlet Unit MI-6926

Flush Plate MI-6925

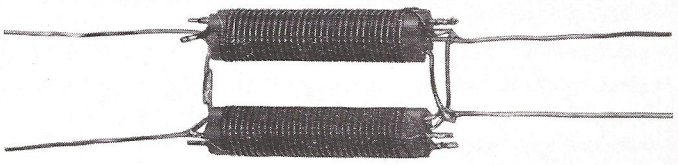
Receiver Matching Transformer

This receiver matching transformer provides a means of matching a 75-ohm impedance source to a 300-ohm impedance line or input, or for matching a 300-ohm impedance source to a 75-ohm impedance line or input. Can be mounted either directly on the receiver or at the base board.

Stock Identification MI-6898

Antenna Matching Transformer

This antenna matching transformer is sometimes known as an elevator coil. It provides a means of matching a 75-ohm impedance source to a 300-ohm impedance line or input, or for matching a 300-ohm impedance source to a 75-ohm impedance line or input.

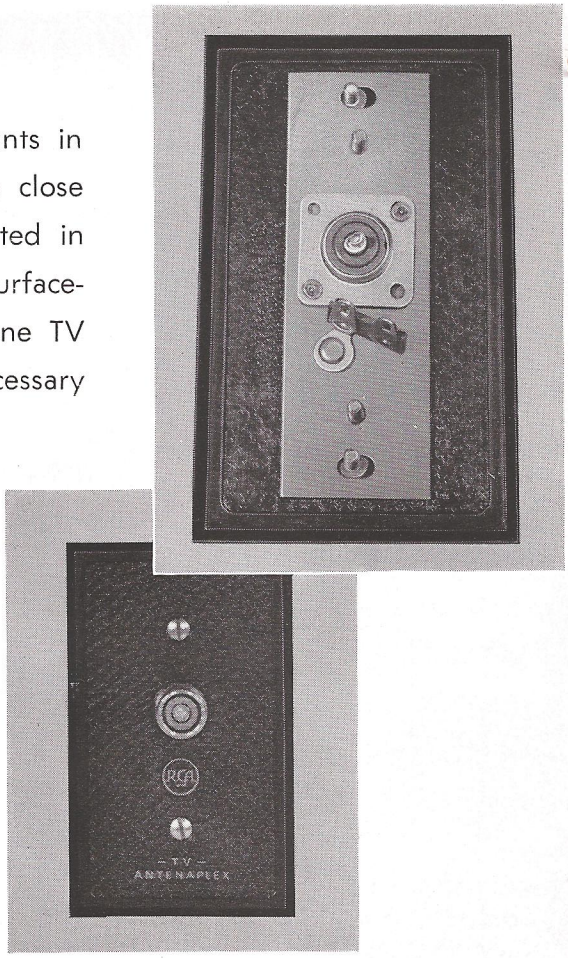


Stock Identification MI-6897

"Antenaplex"® Accessories—

Antenna Outlet Unit (FOR TV and FM Reception)

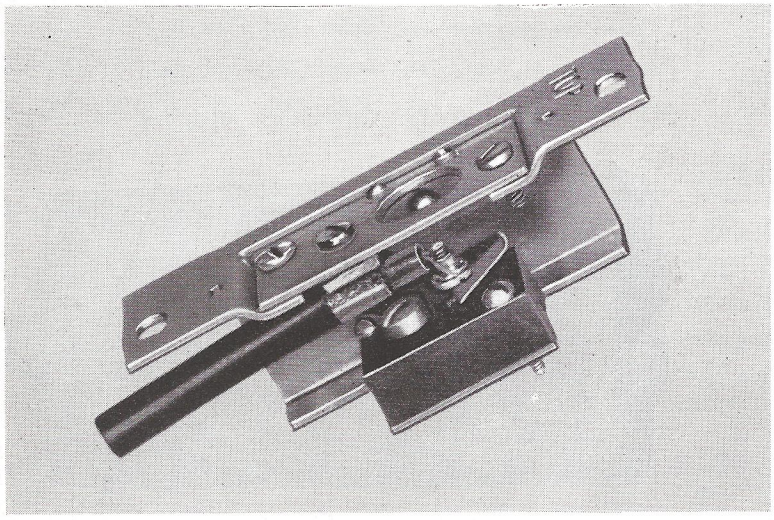
For wall or base board mounting, as desired by owner. Mounts in similar manner to standard a-c receptacle. Suggested location close to a-c receptacle supplying power to receiver. May be mounted in standard, single-gang box flush with wall or in single gang surface-mounted wire mold box. Provides facilities for plugging in one TV or FM receiver. Terminal board provided for connecting in necessary load resistors when required.



Stock Identification:

Outlet Unit.....MI-6960

Flush Plate.....MI-6925



Extension Unit

Designed for running extension cable from the main feeder line to the desired location of outlet unit MI-6960.

Stock Identification.....MI-6929

Coaxial Cable

RCA Coaxial Cable has an impedance of 75 ohms. The center conductor is a solid number 21 AWG copper, tinned. The overall dimension of the cable is .280. Maximum attenuation at 100 MC 3.25 db/100 ft. Maximum attenuation at 200 MC 4.75 db/100 ft. Capacity 20.5 MMF/Ft.

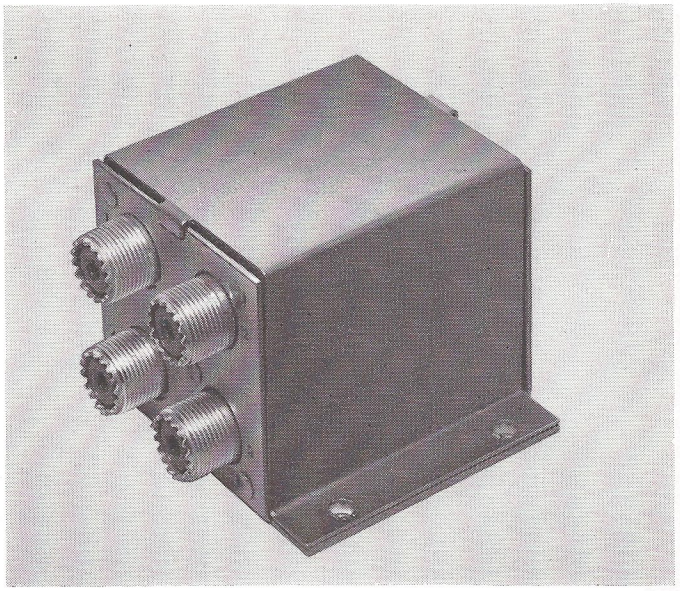
Stock Identification.....MI-13305

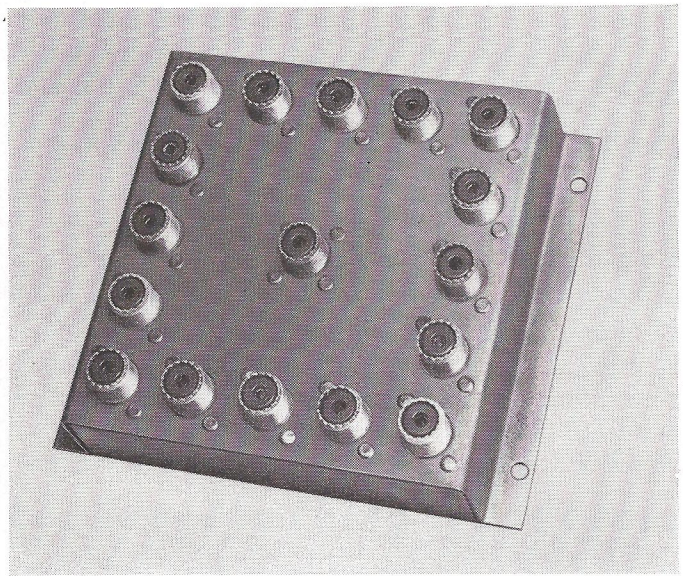
—For TV, AM and FM Reception

Distribution Networks

(4 Output)

The distribution networks for matching a single coaxial line (75 ohms) to 4, 8, 12 and 16 distribution lines of 75 ohms each. When enclosed in box, box dimensions should be 12 inches wide by 12 inches high by 4 inches deep. Cable RG 11/u, RG 59/u, or RCA MI-13305 may be used for making cable connections to the unit.





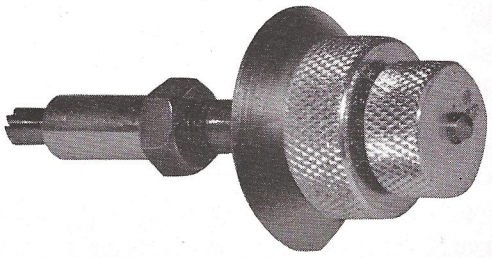
Stock Identification:

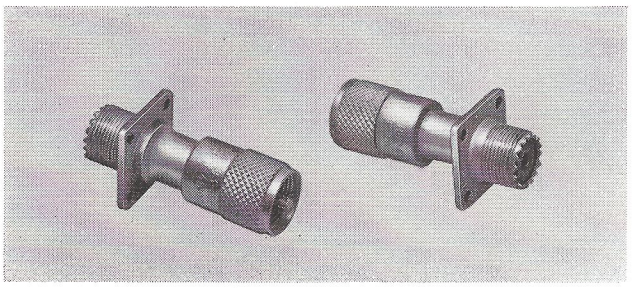
4 Circuit	MI-6896-A
8 Circuit	MI-6970
12 Circuit	MI-6969
16 Circuit	MI-6968

Drilling Tool

For making connections to the coaxial line when using Antenaplex outlet MI-6926, MI-6928, or extension unit MI-6929.

Stock Identification.....MI-6927





Attenuator Pads

MI-5139.....½ watt, attenuator pad 3 db (Orange)
MI-5140.....½ watt, attenuator pad 6 db (Blue)
MI-5141.....½ watt, attenuator pad 10 db (Brown)
MI-5142.....½ watt, attenuator pad 20 db (Red)

"Antenaplex"® Accessories

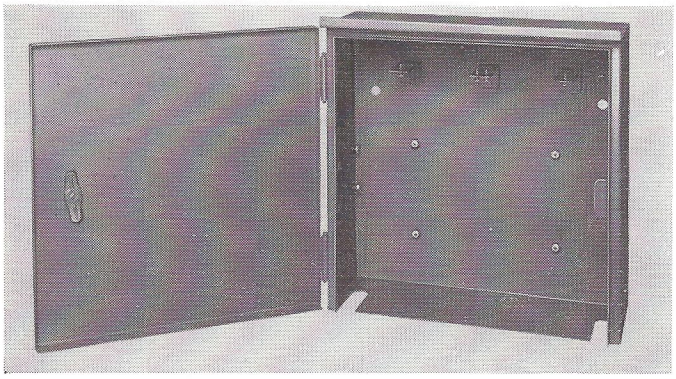
Weatherproof Junction Box

This Junction Box is designed to house one or two tap off assemblies for lateral distribution. Each assembly is composed of an extension unit (MI-6929) and a distribution network.

The distribution network used determines whether 4 (MI-6896-A), 8 (MI-6970), 12 (MI-6969), or 16 (MI-6968) coaxial cable transmission line outlets are available.

The coaxial cable lines entering and leaving the junction box slide into receiving slots cut into the bottom of the box.

Overall Height ..... 12½"
Width ..... 12⅛"
Depth Outside ..... 4 1/16"



Depth Inside ..... 3 15/16"
Mounting Dimension..... Hole separation 10", 3 7/16" from top of cabinet
Finish.... Zinc chromate with heavy Navy gray finish
Gauge ..... 18 gauge
Stock Identification MI-6972-A

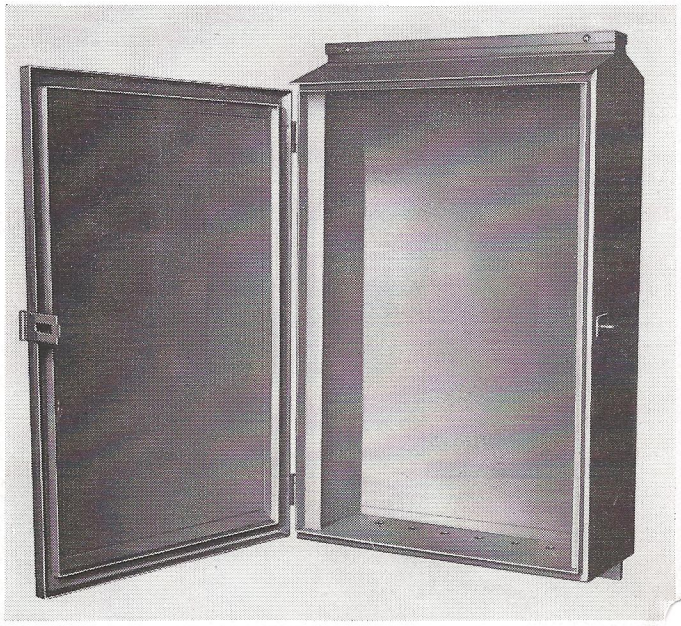
Load Resistors

MI-6906.... ½ watt, 1000 ohm resistor (20 to box)
MI-6907.... ½ watt, 820 ohm resistor (20 to box)
MI-6908.... ½ watt, 680 ohm resistor (20 to box)
MI-6909.... ½ watt, 560 ohm resistor (20 to box)
MI-6913.... ½ watt, 470 ohm resistor (20 to box)
MI-6965.... ½ watt, 2200 ohm resistor (20 to box)
MI-6966.... ½ watt, 3900 ohm resistor (20 to box)
MI-6967.... ½ watt, 75 ohm resistor (10 to box)
MI-6975.... ½ watt, 120 ohm resistor (10 to box)
MI-6976.... ½ watt, 220 ohm resistor (10 to box)
MI-6977.... ½ watt, 390 ohm resistor (10 to box)

Weatherproof Cabinet

This cabinet is intended primarily to house the distribution and a-c power line accessories used directly with either the Type SX-8CT or SX-8CL Amplifier. However, auxiliary equipment fed by the same power supply as either the SX-8CT or SX-8CL Amplifier may also be located in this cabinet.

Overall Heigh Including Brackets..... 29⅛"
Width ..... 20"
Depth Outside (including 1⅛" eave and ½ mounting bracket)..... 10⅞"
Depth Inside ..... 9⅛"
Mounting Dimension..... 26⅜" x 17"
Total Weight Approximately ..... 46 lbs.
Finish..... Hot zinc dipped or zinc chromate with heavy Navy gray finish
Gauge ..... 18 gauge
Stock Identification MI-6974



ANTENAPLEX SALES
RADIO CORPORATION OF AMERICA
Engineering Products Department, Camden, N. J.

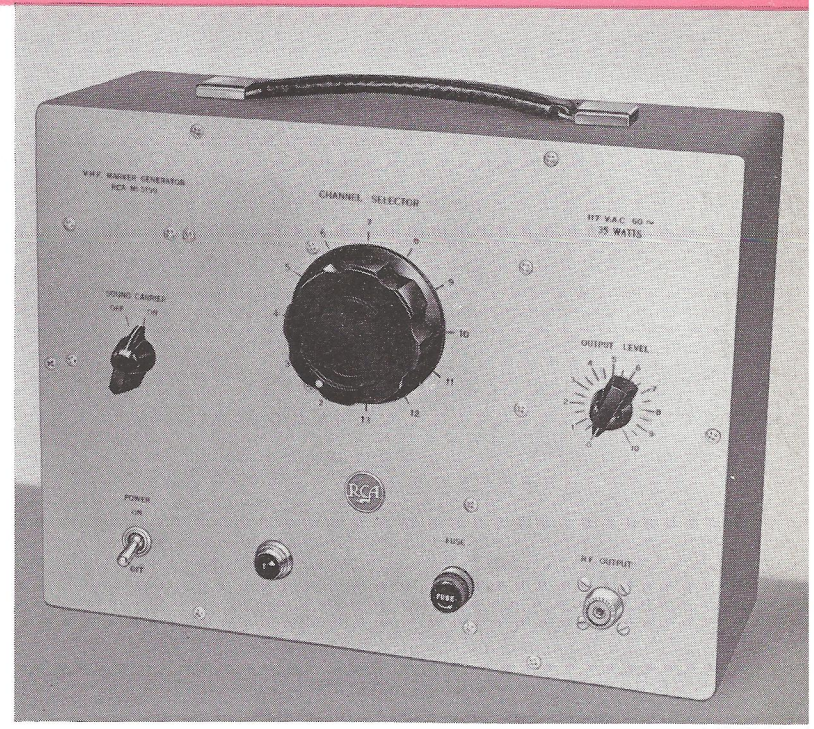
"Antenaplex" VHF Marker Generator

MASTER ITEM-5199

CATALOG **SA.26**

FEATURES

- **Provides R-F signal marker for sound and picture carrier signals on all VHF television channels**
- **Crystal controlled—separate crystal for each picture channel and crystal controlled sound carrier**
- **No tuning dial—no error of channel selection**
- **Time saver—channel selection by turret tuner switched by one knob control**
- **No complicated dials to read—just select desired channel**
- **Versatile—may be used with any sweep generator in testing**
- **Universal—may be used as a marker for checking channelized VHF amplifiers, TV broadband amplifiers, VHF converters, automatic gain control equipment. It will substitute as a signal generator when its output is calibrated at time of use with a survey meter**
- **Compact, rugged and portable—requires little maintenance**



APPLICATION

The MI-5199 was designed to provide quick and accurate calibrating signals for testing VHF television R-F equipment. Because it provides signals at desired frequencies, it may also be used as a R.F. signal generator. As a calibrating source it is used in conjunction with a suitable TV sweep generator, detecting device and oscilloscope.

DESCRIPTION

The MI-5199 Marker Generator is a source of crystal controlled marker signals for all picture and sound carriers in the VHF television band. It is designed primarily to be used with the RCA WR-59C (or equivalent) television sweep generator for the testing of "Antenaplex" channelized or broadband amplifiers, AGC systems, R-F of TV receivers or other R.F. television circuits requiring fast accurate alignment. A self-contained 115 volt a-c operated power supply furnishes B plus and heater voltages. The sound carrier is obtained by modulating the picture carrier with a 4.5 mc crystal controlled frequency generator which may be turned "ON" or "OFF" at will for channel identification and alignment of automatic gain control equipment.

Jan. 1954

SPECIFICATIONS

Output Signals: Crystal controlled—.01% accuracy picture and sound R-F signals on all 12 standard VHF TV channels 2 to 13 inclusive; Sound Carrier Off-On switch on front panel.

Output Amplitude Control Range.....Continuously variable up to ratio of 10:1

Output Levels:

A. Picture Carrier into 75 ohm load in excess of 50,000 microvolts with sound carrier ON. In excess of 100,000 microvolts with sound carrier OFF.

B. Sound Carrier into 70 ohm load in excess of 15,000 microvolts on all channels.

Power Required.....105-125 volts 60 cps, 35 watts

Tube Complement:

2 RCA 12AT7	1 RCA 6X4
1 RCA 6AS6	1 RCA 6AU6

Mechanical:

Height	9½"
Width	13"
Depth	6"
Weight	12 lbs. (approximately)
Finish—Cabinet	RCA deep umber gray hammeroid
Panel	Natural aluminum

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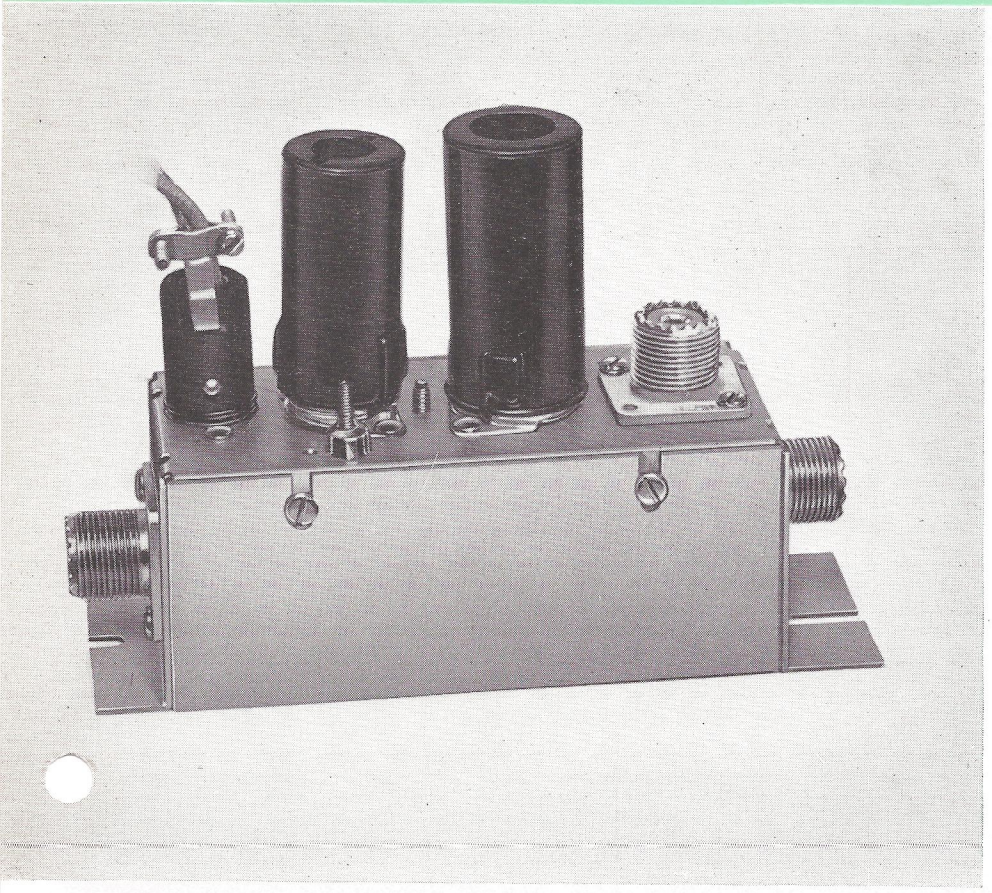
"Antenaplex" Sales
Camden, N. J.

BROADBAND SWEEP CONVERTER

MASTER-ITEM-5197

CATALOG **SA.4**



FEATURES

- **Will enable aligning of low band broadband amplifiers with RCA WR-59C or similar sweep generator**
- **Recommended for checking 75 ohm coaxial cable before installing**
- **Easy, dependable operation**
- **Eliminates need for low band sweep generator**
- **Flat output channels 2 through 6**
- **Uses only 2 tubes for minimum maintenance**
- **Permits aligning of community channelized amplifiers in conjunction with MI-5199 marker generator**

DESCRIPTION

A two tube converter for changing the output frequency of RCA WR-59C Sweep Generators from their maximum sweep width region in the high VHF television band to the low VHF television band for broadband amplifier testing. WR-59 A & B sweep generators can also be adapted. A 6BQ7-A is used as the mixer tube and a 6AF4 as the oscillator tube.

The unit is intended to be used in conjunction with an MI-5180 Broadband Amplifier to amplify its output and enable optimum output flatness to be achieved. It will cover the range of 53 to 90 megacycles.

APPLICATION

This converter is designed to align broadband amplifiers to cover channels 2 through 6 for optimum flatness.

It can also be used to check coaxial cable for discontinuities before installing. By sweeping the coax before installing, the labor to mount and remove defective cable can be eliminated.

It can also be used to line up 3 channel community amplifiers in conjunction with an MI-5199 marker generator. The response and any interaction of the 3 channels would be shown on an oscilloscope at the same time.

SPECIFICATIONS

Input: Source—WR-59 series Sweep Generator after modification or adaptation for 75 ohm output impedance
Output ..... Load—MI-5180 Broadband Amplifier (Low VHF band)
Conversion Loss: (190 mc/s input, 80 mc/s output) ..... 20 db
Frequency Response: (When used in conjunction with an MI-5180) visually flat oscilloscope trace from 53 to 90 mc/s
Tube Complement 1 6BQ7-A, 1 6AF4
Controls ..... 1 screw-driver oscillator tuning adjustment
External Power Required:
B+ voltage ..... 135 volts
B+ current ..... 35 ma
Filament voltage ..... 6.3 volts
Filament current ..... 0.40 ampere

Accessories Required

1—MI-5180 Low band Broadband amplifier
1—MI-5140 Attenuator pad (6db)

May 1954

RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
Camden, N. J.

PRINTED IN U.S.A.

LINE VOLTAGE REGULATOR

CATALOG SA.69

FEATURES

- Instantaneous regulating action
- No tubes or moving parts
- Completely automatic, continuous regulation
- Self-protected against short-circuits and overloading
- Compact, rugged construction
- Load-limiting characteristic protects amplifiers
- Plug-in design for easy installation

APPLICATION

The MI-5189 line voltage regulator is used in community "Antenaplex" systems to regulate the a-c line voltage. It provides essentially constant and optimum voltage for both filament and B plus circuits. In so doing it assures maximum tube life, holds maintenance to a minimum and protects picture quality. The MI-5189 is also recommended for use in multiple building "Antenaplex" systems in areas where a voltage variation of more than 5% exists.

DESCRIPTION

The MI-5189 line voltage regulator consists of a regulating transformer complete with input cord, male plug and an output receptacle for plugging in the apparatus to which regulated voltage is to be supplied. The unit is a simple rugged device requiring no manual adjustments and little or no maintenance. Under direct short circuit the load current is limited protecting both the regulator and its load against damage from excessive currents.

SPECIFICATIONS

Output Capacity in VA	180
Input	95-130 volts
Nominal Output Value	115-120 volts
Frequency	60 cps
Dimensions	7¼" x 9⅛" x 4½"
Shipping Weight	26 lbs.

May 1954

RADIO CORPORATION OF AMERICA
"Antenaplex" Sales
Camden, N. J.

PRINTED IN U.S.A.